ViewSonic®

CD4620
LCD Commercial Display

IMPORTANT: Please read this User Guide to obtain important information on installing and using your product in a safe manner, as well as registering your product for future service. Warranty information contained in this User Guide will describe your limited coverage from ViewSonic Corporation, which is also found on our web site at http://www.viewsonic.com in English, or in specific languages using the Regional selection box in the upper right corner of our website. "Antes de operar su equipo lea cuidadosamente las instrucciones en este manual"

ViewSonic®

Model No. : VS11915

Contents

ViewSonic   CD4620

Compliance Information

For U.S.A.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. this equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Warning: You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

For Canada

This Class A digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

CE Conformity for European Countries

The device complies with the requirements of the EEC directive 89/336/EEC, 2004/108/EC as amended by 92/31/EEC and 93/68/EEC Art.5 with regard to "Electromagnetic compatibility", and 73/23/EEC as amended by 93/68/EEC Art.13 with regard to "Safety."

Warning: This is a class A product. in a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures

Following information is only for EU-member states:

The mark shown to the right is in compliance with the Waste Electrical and Electronic Equipment Directive 2002/96/EC (WEEE).

The mark indicates the requirement NOT to dispose the equipment as unsorted municipal waste, but use the return and collection systems according to local law.

Important Safety Instructions

1. Read these instructions completely before using the equipment.

2. Keep these instructions in a safe place.

3. Heed all warnings.

4. Follow all instructions.

5. Do not use this equipment near water. Warning: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

6. Clean with a soft, dry cloth. If further cleaning is required, see "Cleaning the Display" in this guide for further instructions.

7. Do not block any ventilation openings. Install the equipment in accordance with the manufacturer's instructions.

8. Do not install near any heat sources such as radiators, heat registers, stoves, or other devices (including amplifiers) that produce heat.

9. Do not attempt to circumvent the safety provisions of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade and the third prong are provided for your safety. If the plug does not fit into your outlet, consult an electrician for replacement of the outlet.

10. Protect the power cord from being tread upon or pinched, particularly at the plug, and the point where if emerges from the equipment. Be sure that the power outlet is located near the equipment so that it is easily accessible.

11. Only use attachments/accessories specified by the manufacturer.

12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the equipment. When a cart is used, use caution when moving the cart/equipment combination to avoid injury from tipping over.

13. Unplug this equipment when it will be unused for long periods of time.

14. Refer all servicing to qualified service personnel. Service is required when the unit has been damaged in any way, such as: if the power-supply cord or plug is damaged, if liquid is spilled onto or objects fall into the unit, if the unit is exposed to rain or moisture, or if the unit does not operate normally or has been dropped.

Declaration of RoHS Compliance

This product has been designed and manufactured in compliance with Directive 2002/95/EC of the European Parliament and the Council on restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS Directive) and is deemed to comply with the maximum concentration values issued by the European Technical Adaptation Committee (TAC) as shown below:

Substance	Proposed Maximum Concentration	Actual Concentration
Lead (Pb)	0.1%	< 0.1%
Mercury (Hg)	0.1%	< 0.1%
Cadmium (Cd)	0.01%	< 0.01%
Hexavalent Chromium (Cr^{6+})	0.1%	< 0.1%
Polybrominated biphenyls (PBB)	0.1%	< 0.1%
Polybrominated diphenyl ethers (PBDE)	0.1%	< 0.1%

Certain components of products as stated above are exempted under the Annex of the RoHS Directives as noted below:

Examples of exempted components are:

1. Mercury in compact fluorescent lamps not exceeding 5 mg per lamp and in other lamps not specifically mentioned in the Annex of RoHS Directive.

2. Lead in glass of cathode ray tubes, electronic components, fluorescent tubes, and electronic ceramic parts (e.g. piezoelectronic devices).

3. Lead in high temperature type solders (i.e. lead-based alloys containing 85% by weight or more lead).

4. Lead as an allotting element in steel containing up to 0.35% lead by weight, aluminium containing up to 0.4% lead by weight and as a cooper alloy containing up to 4% lead by weight.

Copyright Information

Product Registration

To meet your future needs, and to receive any additional product information as it becomes available, please register your product on the Internet at: **www.viewsonic.com**. The ViewSonic Wizard CD-ROM also provides an opportunity for you to print the registration form, which you may mail or fax to ViewSonic.

For Your Records

Product Name:	CD4620
	ViewSonic 46" LCD Commercial Display
Model Number:	VS11915
Document Number:	CD4620-1_UG_ENG Rev. 1B 11-14-07
Serial Number:	_____
Purchase Date:	_____

Product disposal at end of product life

The lamp in this product contains mercury. Please dispose of in accordance with local, state or federal laws.

ViewSonic is concerned about the preservation of our environment. Please dispose of this product properly at the end of its useful life. For the recycling information, please refer to our website:

1. USA: www.viewsonic.com/pdf/RecyclePlus.pdf

2. Europe: www.viewsoniceurope.com

3. Taiwan: recycle.epa.gov.tw

Safety Precautions

FOR OPTIMUM PERFORMANCE,
PLEASE NOTE THE FOLLOWING WHEN SETTING UP AND USING THE LCD COLOR MONITOR:

- **DO NOT REMOVE MONITOR BACK COVER.** There are no user serviceable parts inside and opening or removing covers may expose you to dangerous shock hazards or other risks. Refer all servicing to qualified service personnel.
- Do not spill any liquids into the cabinet or use your monitor near water.
- Do not insert objects of any kind into the cabinet slots, as they may touch dangerous voltage points, which can be harmful or fatal or may cause electric shock, fire or equipment failure.
- Do not place any heavy objects on the power cord. Damage to the cord may cause shock or fire.
- Do not place this product on a sloping or unstable cart, stand or table, as the monitor may fall, causing serious damage to the monitor.
- When operating the LCD monitor with an AC 100-120V power supply in North America, use a power supply cord provided with this monitor.
- When operating the LCD monitor with an AC 220-240V power supply in Europe, use a power supply cord provided with this monitor.
- In UK, use a BS-approved power cord with molded plug having a black (10A) fuse installed for use with this monitor. If a power cord is not supplied with this monitor, please contact your supplier.
- When operating the LCD monitor with a 220-240V AC power supply in Australia, use the power cord provided with this monitor. If a power cord is not supplied with this monitor, please contact your supplier.
- For all othercase, use a power cord that matches the AC voltage of the power outlet and has been approved by and complies with the safety standard of your particular country.
- Do not place any objects onto the monitor and do not use the monitor outdoors.
- The inside of the fluorescent tube located within the LCD monitor contains mercury. Please follow the laws or rules of your municipality to dispose of the tube properly.
- Do not bend power cord.
- Do not use monitor in high temperature, humid, dusty, or oily areas.
- If monitor or glass is broken, do not come in contact with the liquid crystal and handle with care.
- Allow adequate ventilation around the monitor, so that heat can properly dissipate. Do not block ventilated openings or place the monitor near a radiator or other heat sources. Do not put anything on top of the monitor.
- The power cable connector is the primary means of detaching the system from the power supply. The monitor should be installed close to a power outlet, which is easily accessible.
- Handle with care when transporting. Save packaging for transporting.
- Please clean the holes of back cabinet to reject dirt and dust at least once a year because of set reliability.
- If using the cooling fan continuously, it's recommended to wipe holes a minimum of once a month.
- When installing the remote control batteries;
    - Align the batteries according to the (+) and (-) indications inside the case.
    - Align the (-) indication of the battery first inside the case.

CAUTION:
Immediately unplug your monitor from the wall outlet and refer servicing to qualified service personnel under the following conditions:
- When the power supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the monitor.
- If the monitor has been exposed to rain or water.
- If the monitor has been dropped or the cabinet damaged.
- If the monitor does not operate normally by following operating instructions.

Recommended Use
CAUTION:
- For optimum performance, allow 20 minutes for warm-up.
- Rest your eyes periodically by focusing on an object at least 5 feet away. Blink often.
- Position the monitor at a 90° angle to windows and other light sources to minimize glare and reflections.
- Clean the LCD monitor surface with a lint-free, nonabrasive cloth. Avoid using any cleaning solution or glass cleaner!
- Adjust the monitor's brightness, contrast and sharpness controls to enhance readability.
- Avoid displaying fixed patterns on the monitor for long periods of time to avoid image persistence (after image effects).
- Get regular eye checkups.

Ergonomics
To realize the maximum ergonomic benefits, we recommend the following:
- Use the preset Size and Position controls with standard signals.
- Use the preset Color Setting.
- Use non-interlaced signals.
- Do not use primary color blue on a dark background, as it is difficult to see and may produce eye fatigue due to insufficient contrast.

Package Contents

Your new CD4620 monitor box* should contain the following:

- LCD monitor
- Power Cord (1.8 m)
- Video Signal Cable (1.8 m)
- User's Manual in CD Wizard
- Wireless Remote Control and AAA Batteries
- Quick Start Guide (A4)
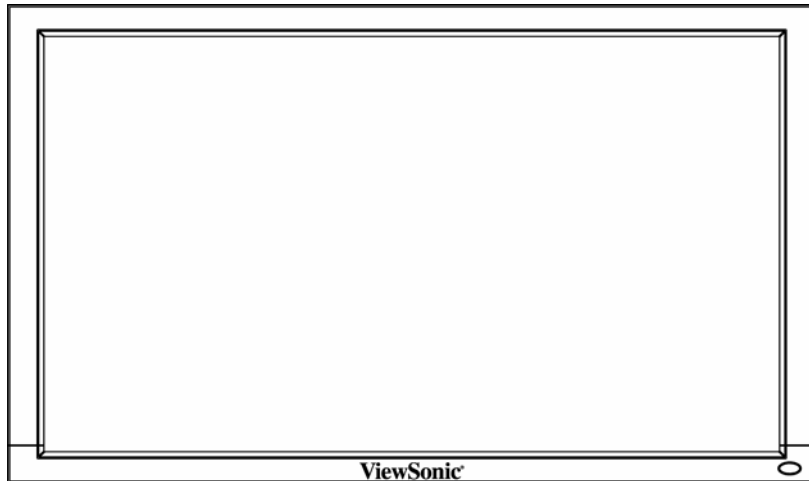
LCD monitor

Quick Start Guide
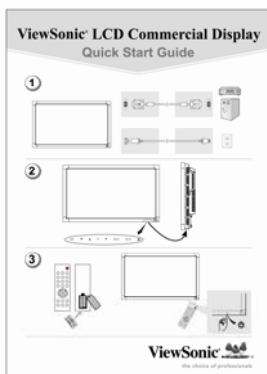
Video Signal Cable

Remote control & AAA batteries

CD Wizard
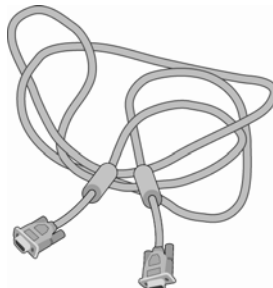
Power cored
For North America

Parts Name and Functions

Control Panel

Button Location
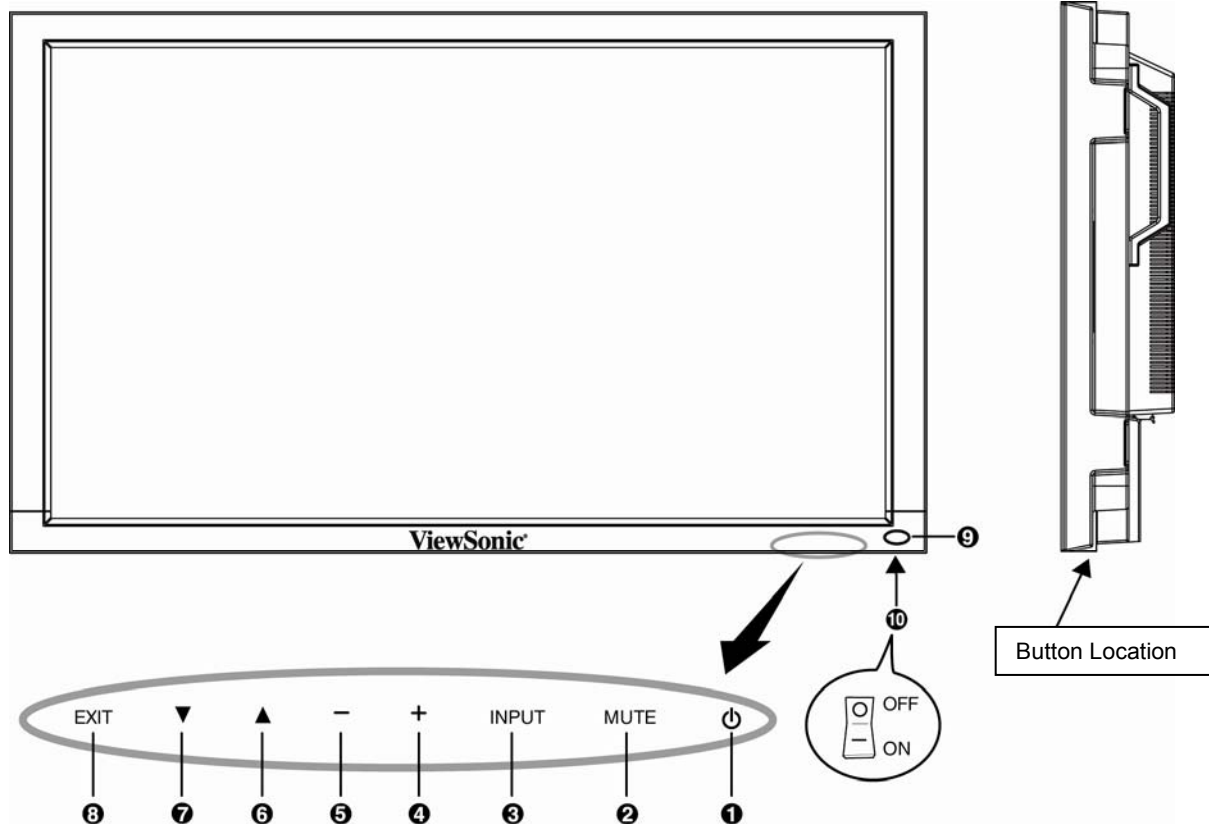
❶**POWER button (⏻) -** Switches the power on/off.

❷**MUTE button -** Switches the audio mute ON/OFF.

❸**INPUT butto**n - Acts as SET button with OSD menu.(Toggle switches between [RGB1], [RGB2], [RGB3], [RGB4], [DVD/HD], [VIDEO<S>] and [VIDEO] .)

❹**PLUS (+) butto**n - Acts as (+) button to increase the adjustment with OSD menu. Increase the audio output level when the OSD menu is turned off.

❺**MINUS (-) butto**n - Acts as (-) button to decrease the adjustment with OSD menu. Decreases the audio output level when the OSD menu is turned off.

❻**UP (▲) butto**n - Activates the OSD menu when the OSD menu is turned-off. Acts as ▲ button to move the highlighted area up to select the adjustment with OSD menu.

❼**DOWN (▼) button -** Activates the OSD menu when the OSD menu is turned-off. Acts as ▼ button to move the highlighted area down to select the adjustment with OSD menu.

❽**EXIT butto**n - Activates the OSD menu when the OSD menu is turned-off. Acts as EXIT button to move to previous menu with OSD menu.

❾**Remote control sensor and Power indicato**r - Receives the signal from the remote control (when using the wireless remote control). Glows green when the LCD monitor is in active and glows red when the LCD is in POWER OFF mode. When the LCD is in power save mode, it will glow both green and red. When SCHEDULE is enabled, it will blink green and glow red. In the case of where a failure is detected, it will blink red.

❿**Main Power Switch -** On/Off Switch to turn main power on/off.

NOTE: Control Key Lock Mode
This control completely locks out access to all Control Key functions. To activate the control key lock function, press both of "▲" and "▼" and hold down simultaneously for more than 3 seconds. To resume back to user mode, press both of "▲" and "▼" and hold simultaneously for three (3) seconds.

Terminal Panel
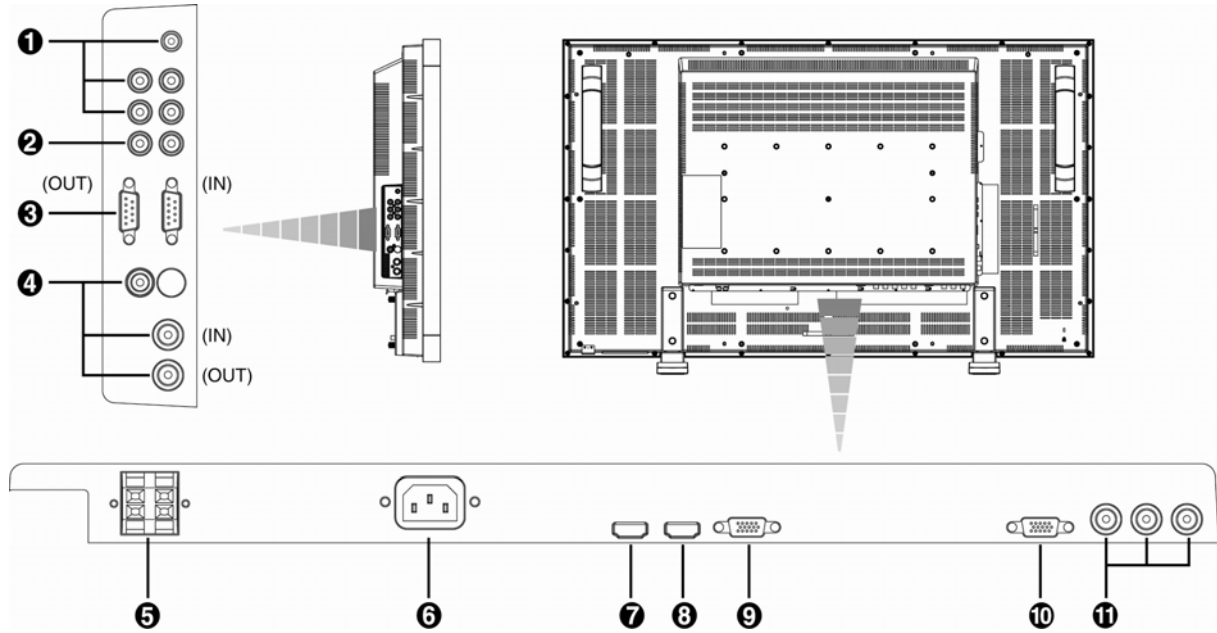
❶AUDIO IN 1, 2, 3

To input audio signal from external equipment such as a computer, VCR or DVD player.

❷AUDIO OUT

To output the audio signal from the AUDIO IN 1,2 and 3 jack.

❸EXTERNAL CONTROL (mini D-Sub 9 pin)

Connect the IN connector with the RS-232C OUT connector of the computer or a multi-connected CD4620 monitor.

Connect the OUT connector with the RS-232C IN connector of CD4620 monitor.

❹VIDEO IN/OUT **VIDEO IN connector (BNC and RCA):** To input a composite video signal. BNC and RCA are not

available at the same time. (Use only one input). **VIDEO OUT connector (BNC):** To output the composite video signal

from VIDEO IN connector. **S-VIDEO IN connector (MINI DIN 4 pin):** To input the S-video (Y/C separate signal).

❺EXTERNAL SPEAKER TERMINAL

To output the audio signal for external speakers from AUDIO 1, 2, 3 jack or HDMI.

❻AC IN connector

Connects with the supplied power cord.

❼RGB 1 IN (HDMI 1)

To input digital RGB signals from a computer.

* This connector does not support analog input. AUDIO is supported via HDMI.

❽RGB 2 IN (HDMI 2)

To input digital RGB signals from a computer.

* This connector does not support analog input. AUDIO is supported via HDMI.

❾RGB 3 IN (mini D-Sub 15 pin) To input a analog RGB signals from a computer or other RGB equipment.

❿RGB OUT (mini D-Sub 15 pin)

To output the signal from RGB 3 IN or 4 IN.

⓫DVD/HD IN [Y, Pb/Cb, Pr/Cr] (BNC)

Connecting equipment such as a DVD player, HDTV device, or Laser disc player.

Wireless Remote Control
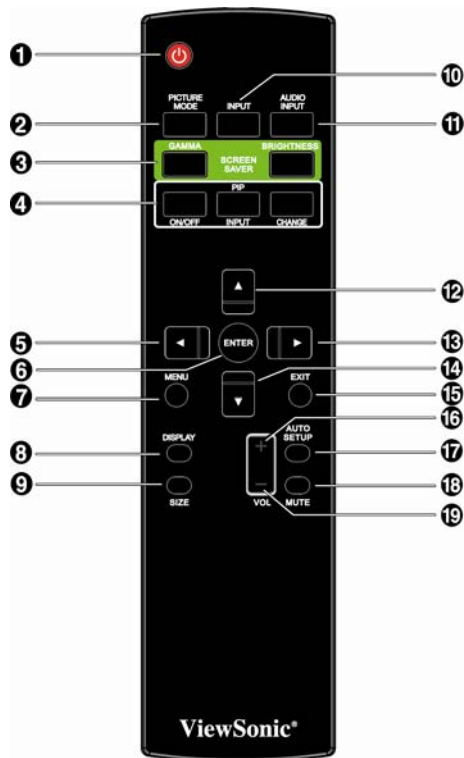
❶POWER button

Switches the power on/off.

* If LED Power Indicator on the monitor is not glowing, then no controls will work.

❷PICTURE MODE buttonSelects from picture mode, [HIGHBRIGHT], [STANDARD], [sRGB], [CINEMA].

HIGHBRIGHT: for moving image such as Video

STANDARD: for images (Factory setting)

sRGB: for text based images

CINEMA: for movies.

❸SCREEN SAVER button

GAMMA button: To switch the Gamma setting.

BRIGHTNESS button: To switch the brightness setting.

❹PIP (Picture In Picture) button

ON/OFF button: PIP-ON/OFF.

INPUT button: Select the "picture in picture" input signal.

CHANGE button: Replaces to the main picture and sub pic-ture.

Note:
The "PIP" and "POP" modes do not function when the screen size is "CUSTOM" or "REAL".

❺LEFT button decrease

Acts as (◄) button to decrease the adjustment with OSD menu. Small screen which adjusted "PIP" mode moves left.

❻ENTER button Acts as SET button with OSD menu.

❼MENU button To switch the menu mode on/off.

❽DISPLAY button

To switch the information OSD on/off.

❿INPUT button Selects from input signal, [RGB1], [RGB2], [RGB3], [DVD/HD], [VIDEO<S>] and [VIDEO].

⓫AUDIO INPUT button Press to change the audio source for each video source. The audio source is changed from [AUDIO1] to [AUDIO2], [AUDIO3] and [HDMI] in order. Note that you cannot select the audio source for [VIDEO<S>] or [VIDEO]. [HDMI] is selectable only when the video source is [RGB 1] and [RGB 2].

⓬UP button

Acts as ▲ button to move the highlighted area up to select the adjustment with OSD menu. Small screen which adjusted "PIP" mode moves up.

⓭RIGHT button increase

Acts as (►) button to increase the adjustment with OSD menu. Small screen which adjusted "PIP" mode moves right.

⓮DOWN button

Acts as ▼ button to move the highlighted area down to select the adjustment with OSD menu. Small screen which adjusted "PIP" mode moves down.

⓯EXIT button

Turn to previous menu with OSD menu.

⓰VOLUME + button decrease

Increase the audio output level.

⓱AUTO SETUP button

To enter the auto setup menu.

⓲MUTE button

To switch the mute function on/off.

⓳VOLUME - button increase

Decrease the audio output level.

Operating Range for the Remote Control

Point the top of the remote control toward the LCD monitor's remote sensor during button operation. Use the remote control within a distance of about 7 m/23 ft. from the front of the LCD monitor's remote control sensor and at a horizontal and vertical angle of within 30° within a distance of about 3 m/10 ft.
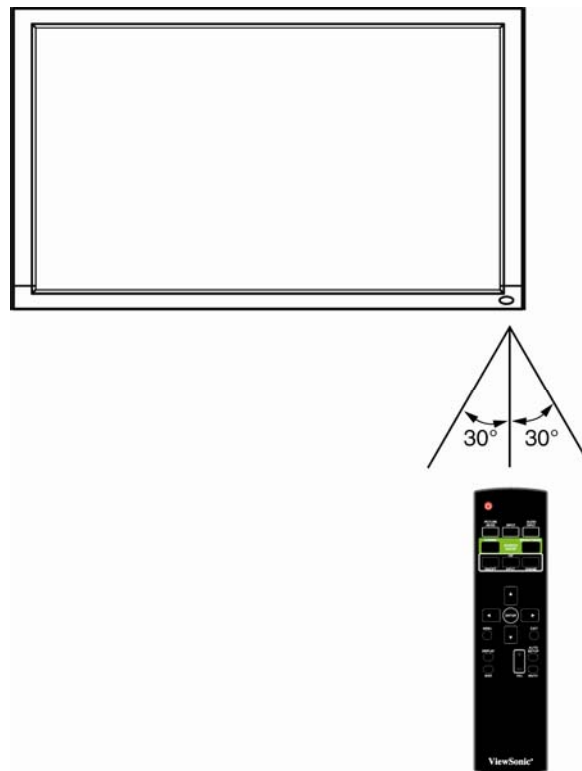
CAUTION:

Important, the remote control system may not function when direct sunlight or strong illumination strikes the remote control sensor of the LCD monitor, or when there is an object in the path.

Handling the remote control

❋ Do not subject to strong shock.
❋ Do not allow water or other liquid to splash the remote control. If the remote control gets wet, wipe it dry immediately.
❋ Avoid exposure to heat and steam.
❋ Other than to install the batteries, do not open the remote.

Setup Procedure

1. Determine the installation location

CAUTION: DO NOT ATTEMPT TO INSTALL THE LCD MONITOR BY YOURSELF. Installing your LCD display must be done by a qualified technician. Contact your dealer for more information.

CAUTION: MOVING OR INSTALLING THE LCD MONITOR MUST BE DONE BY TWO OR MORE PEOPLE.Failure to follow this caution may result in injury if the LCD monitor falls.

CAUTION: Do not mount or operate the display upside down, face up, or face down.

CAUTION: Do not install the LCD monitor where it will be exposed to direct sunlight, as this will result in display defects.

CAUTION: This LCD has a temperature sensor and cooling fan. If the LCD becomes too hot, the cooling fan will turn on automatically. If the LCD becomes overheated and the cooling fan is running, the "Caution" menu will appear. If the "Caution" menu appears, discontinue use and allow the unit to cool. When the LCD monitor is used in an enclosure or with protection on LCD surface, please check the inside temperature of monitor by "HEAT STATUS". The temperature is too hot than normal condition, please set "cooling fan" to **ON** on SCREEN SAVER function.

IMPORTANT:
Lay the protective sheet, which was wrapped around the LCD monitor when it was packaged, beneath the LCD monitor so as not to scratch the panel.

2. Install the remote control batteries

The remote control is powered by 1.5V AAA batteries. To install or replace batteries:
1. Press and slide to open the cover.
2. Align the batteries according to the (+) and (–) indications inside the case.
3. Replace the cover.
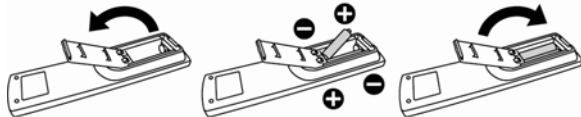
CAUTION:
Incorrect use of batteries can result in leaks or bursting. Be careful especially about the following points.
- Place "AAA" batteries matching the + and - signs on each battery to the + and - signs of the battery compartment.
- Do not mix battery types.
- Do not combine new batteries with used ones. It causes shorter battery life or leakage of batteries.
- Remove dead batteries immediately to prevent battery liquid from leaking into the battery compartment. Don't touch exposed battery acid, it cause damage to your skin.

NOTE:
If you do not intend to use the Remote Control for a long period, remove the batteries.

3. Connect external equipment

To protect the connected equipment, turn off the main power before making connections.
Refer to your equipment user manual.

4. Connect the supplied power cord

The power outlet socket should be installated as near to the equipment as possible, and should be easily accessible.
Fully insert the prongs into the power outlet socket. Loose connection may cause noise.

NOTE:
Please refer to "Safety Precautions, Maintenance & Recommended Use" section of this manual for proper selection of AC power cord.
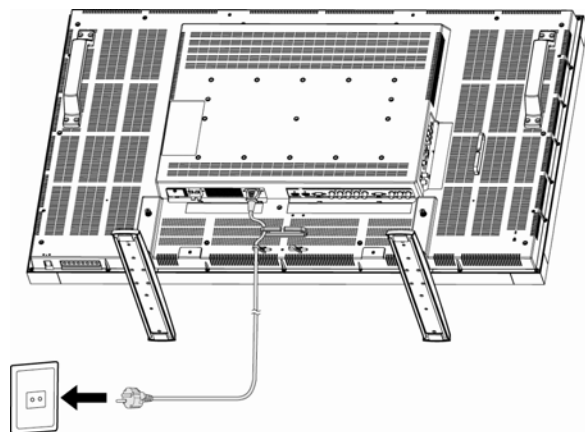
5. Switch on the power of all the attached external equipment

When connected with a computer, switch on the power of the computer first.

6. Operate the attached external equipment

Display the signal on the external equipment you wish.

7. Adjust the sound

Make adjustments lowering or raising the volume as required.

8. Adjust the screen

Make adjustments to the display position or settings if required.

9. Adjust the image

Make adjustments to brightness or contrast if required.

10. Recommended Adjustment

To reduce the risk of "image persistence", please adjust the following items based on the application being used.
"POWER SAVE", "SCREEN SAVER", "DATE AND TIME", "SCHEDULE".

11. When CD4620 is installed in portrait position

Conditions

CD4620 can be installed in portrait position, under the following conditions:

Caution:

- ❀ Portrait position is effective only when wall-mounted or ceiling-mounted.
- ❀ The stands(legs) can not be fitted to the monitor in portrait position.
- ❀ Placing the monitor in portrait position, will shorten the average life of the LCD backlight.
- ❀ Operational Environment (Temperature) shall be limited, as shown below:

Operational	Temperature	5 - 35 °C / 41 - 95 °F
Environment	Humidity	20 - 80 % (without condensation)

Please orientate the monitor in the direction shown below:

Do not place monitor in landscape in any other manner.

How to set-up

1. Remove the stands(legs).
2. The "ViewSonic®" logo should be on the LEFT side when facing the monitor.

Remove the stands (legs)

Clockwise
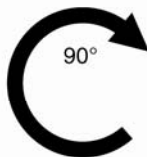
Counterclockwise

90°

90°
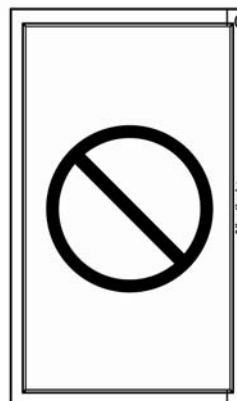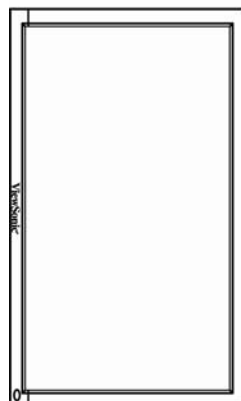
How to Mount and Attach Options to the LCD Monitor

You can attach mounting accessories to the LCD monitor in one of the following two ways:

1. In the upright position
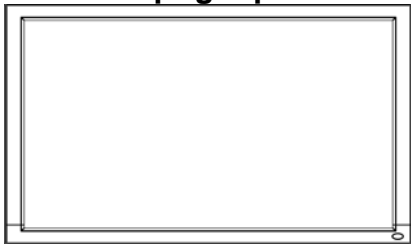
2. Lay the screen face down
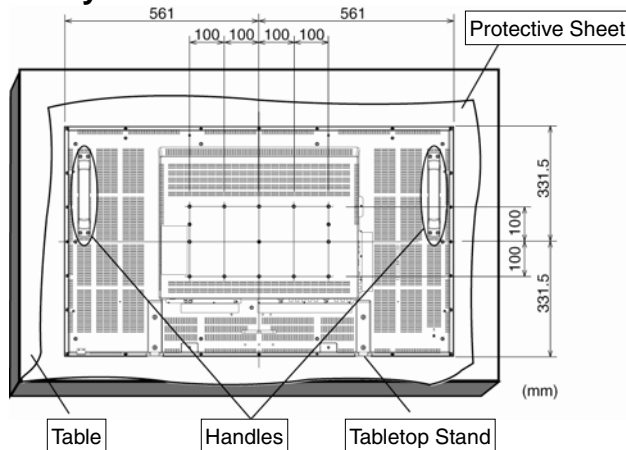
Lay the protective sheet on a table, which was wrapped around the monitor when it was packaged, beneath the screen surface so as not to scratch the screen face.

This device cannot be used or installed without the Tabletop Stand or other mounting accessory. Failure to follow correct mounting procedures could result in damage to the equipment or injury to the user or installer. Product warranty does not cover damage caused by improper installation.

Failure to follow these recommendations could result in voiding your warranty.

Use M6 mounting screws (having a length 10 mm longer than the thickness of the mounting bracket) and tighten them securely. (Recommended torque: 470 - 635N•cm). ViewSonic recommends using mounting interface that comply with TÜV-GS and/or UL1678 standard in North America.

Caution:

For preventing the monitor from falling.
- Install the monitor with metal brackets for wall or ceiling installation (commercially available) on your own responsibility. For detailed procedures of installation, refer to the instructions of the metal brackets.
- To lessen the probability of injury and damage resulting from fall of the monitor in case of earthquake or other disaster, be sure to consult the bracket manufacturer for installation location.
- To lessen the risk of falling of the monitor, thread commercially available rope (having a load capacity at least 1960N (200kgf)) through the handles at the right and left of the monitor and secure the rope to the wall mount brackets or ceiling mount brackets.
- Do not sleep where the monitor may topple over or fall in case of an earthquake or other disaster.

3. Ventilation Requirements for enclosure mounting

To allow heat to disperse, leave space between surrounding objects as shown in the diagram below.
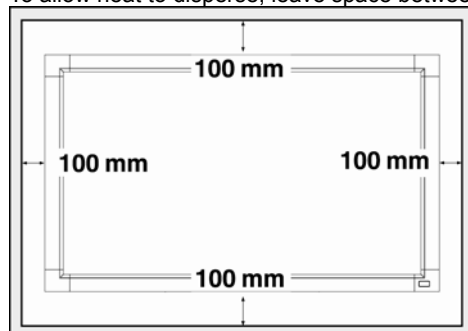
4. To avoid monitor from falling

Take measures to prevent the monitor from falling over in case of an earthquake or other disaster to lessen the probability of injury and damage resulting from fall.

As shown in the figure, secure the monitor to a solid wall or pillar using rope (commercially available) strong enough to bear the weight of the monitor. (CD4620: approx. 34.6 kg) When you use screw hooks (commercially available), ring screw hooks, not C-shaped screw hooks (with opening), are recommended.

768 mm

Screw Holes

Screw hook, etc.
Commercially available

Rope, etc.
Commercially available

Clamper

Screw

* Clamper and Screw is not supply.
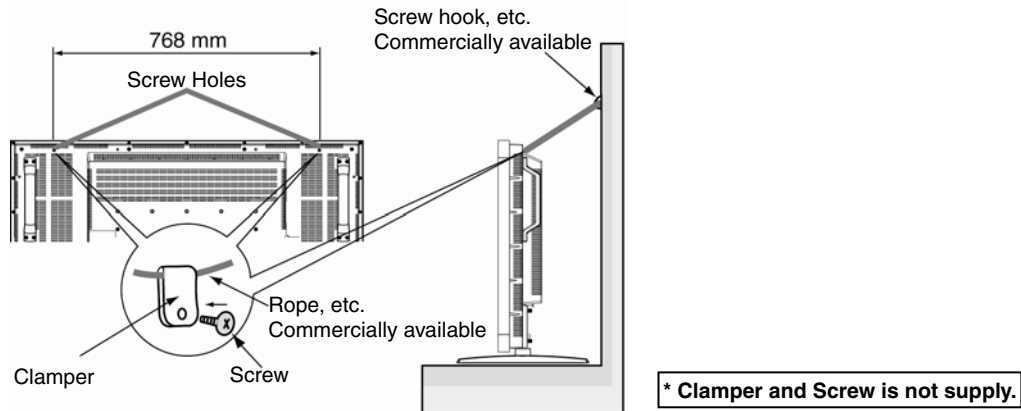
Caution:
- The effectiveness of preventing from falling substantially depends on the strength of brackets and base to which prevention device from falling is attached. When you cannot ensure sufficient strength, provide adequate reinforcement.
- Though the recommended prevention from falling is intended to lessen the probability of injury and damage, it doesn't assure its effectiveness against any kind of earthquake or disaster.
- Do not sleep where the monitor may topple over or fall in case of an earthquake or other disaster.
- Before moving the monitor, remove the rope that is securing the monitor. Failure to do so may result in injury or breakdown of the monitor.

Connections

Before making connections:

※ First turn off the power of all the attached equipment and make connections.
※ Refer to the user manual included with each separate piece of equipment.

Wiring Diagram

Monitor

DVD

HD

VCR

PC

Equipment with
Digital interface

LCD monitor (second monitor)
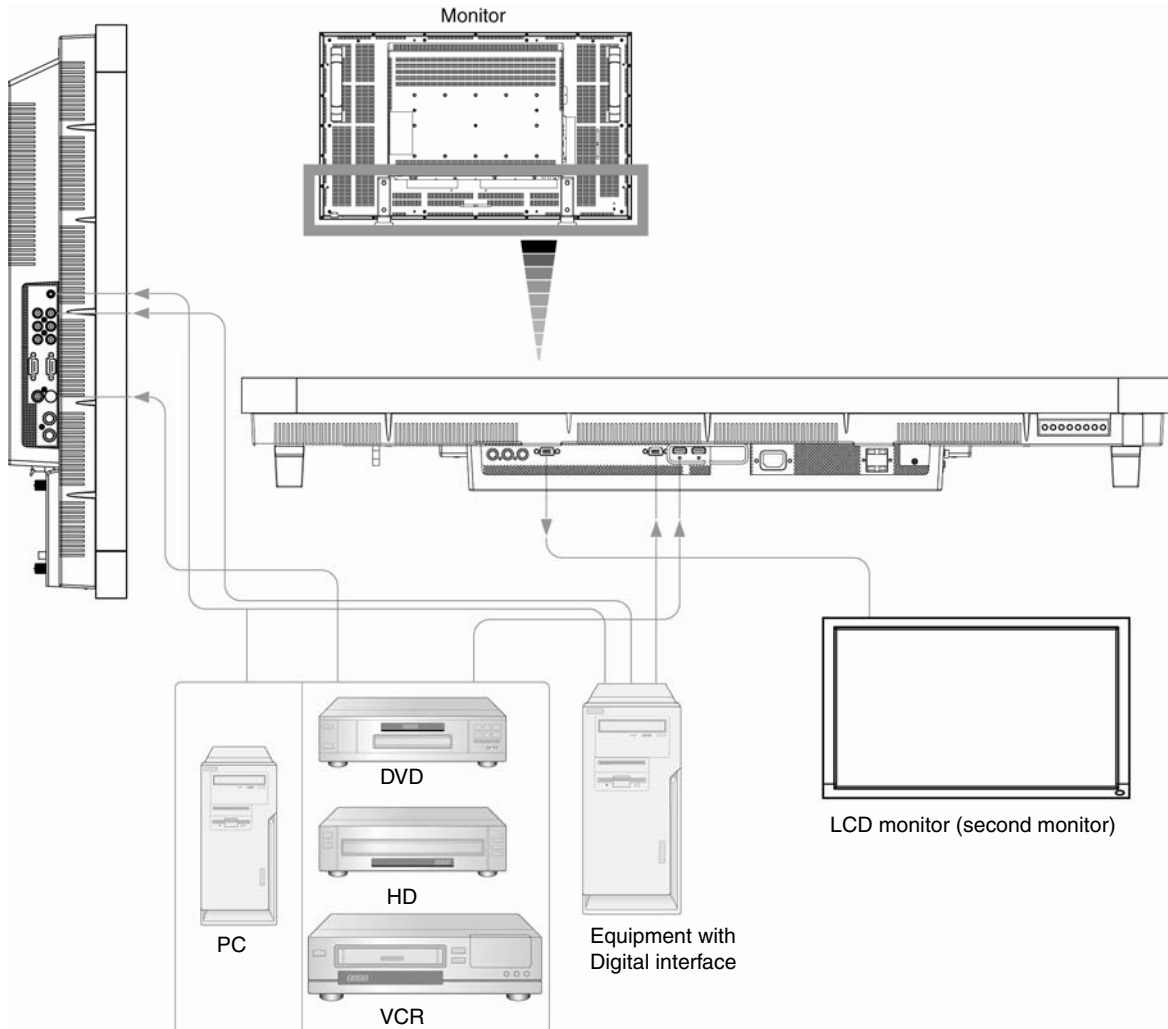
Connecting a Personal Computer

Connecting your computer to your LCD monitor will enable you to display your computer's screen image.
Some video cards may not display an image correctly.

Connect the LCD Monitor to a Personal Computer

• To connect the RGB 3 IN connector (mini D-sub 15 pin) on the LCD monitor, use the supplied PC - Video RGB signal cable (mini D-sub 15 pin to mini D-sub 15 pin).
• When connecting one or more LCD monitors, use the RGB OUT connector (mini D-sub 15 pin).
• The AUDIO IN 1, 2, 3 or HDMI can be used for audio input. For connection, select AUDIO 1, 2, 3 or HDMI from the AUDIO INPUT button. You can select HDMI only when RGB 1 or 2 is selected.
• The AUDIO OUT jack outputs sound from the selected Audio input.

Monitor

To audio output

To analog RGB output

RCA

LCD monitor (second monitor)
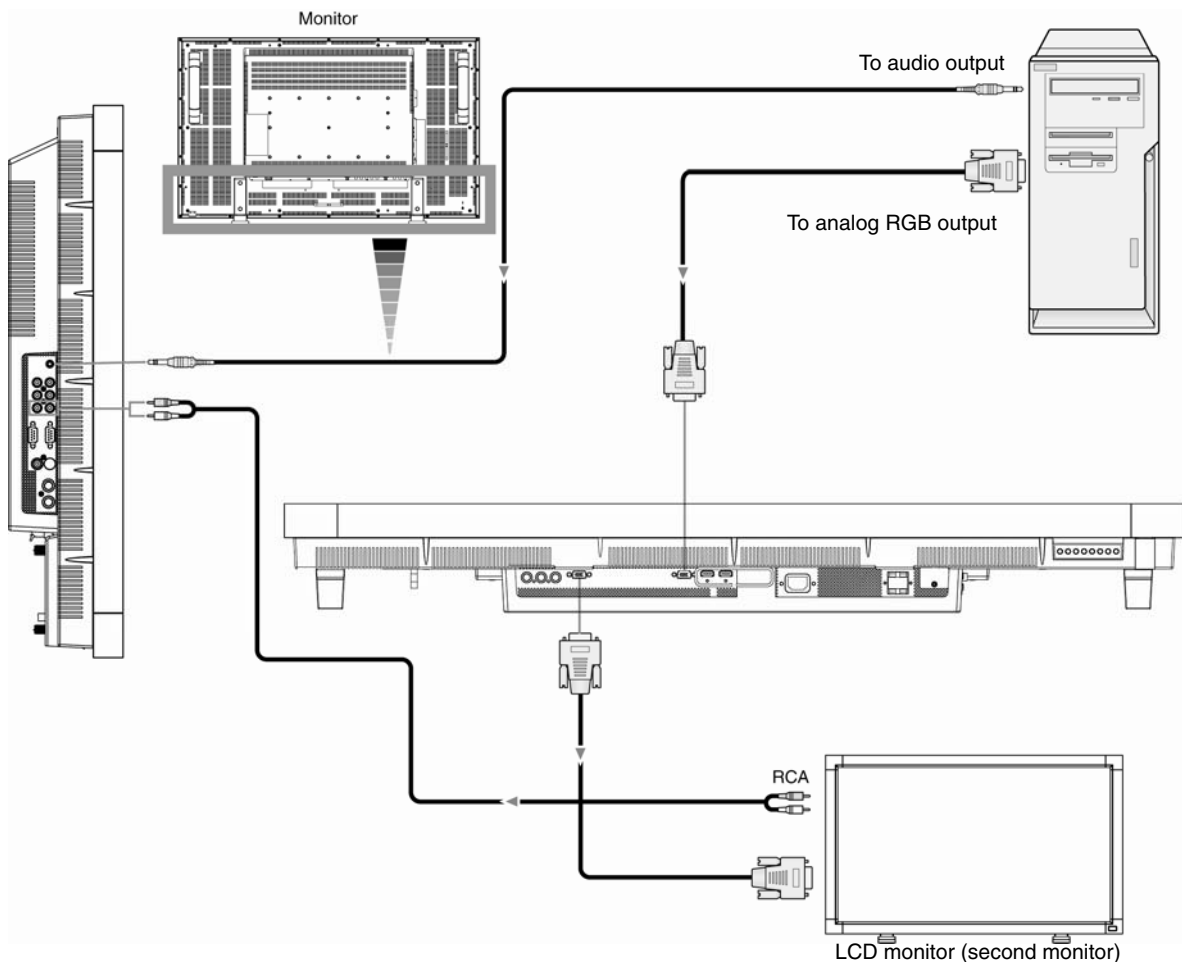
Connecting with Digital Interface Equipment

Connections can be made with equipment that is equipped with a digital interface compliant with the DVI (Digital Visual Interface) standard.

Connect the LCD Monitor to a Computer with a Digital Output

- The RGB 1, RGB 2 IN connector accepts a HDMI cable.
- The RGB 1, RGB 2 IN connector can connect to HDMI output or DVI-D output of PC.
- To maintain display quality, use a cable with a quality prescribed by DVI standards. (See 29 page "HDMI INPUT MODE")
- The AUDIO IN 1, 2, 3 or HDMI can be used for audio input. For connection, select AUDIO 1, 2 , 3 or HDMI from the AUDIO INPUT button. You can select HDMI only when RGB 1 or 2 is selected.
- The signal input from HDMI connector cannot be output to the RGB OUT connector.
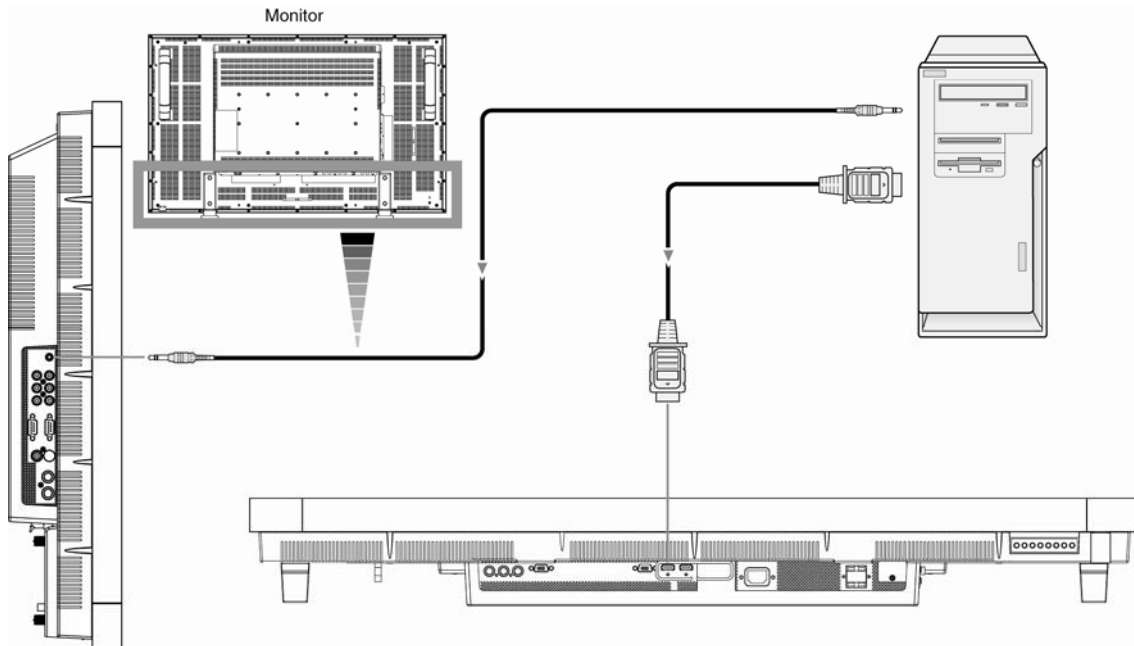
* Cables are not supply.

Connecting a DVD Player with component out

Connecting your DVD player to your LCD monitor will enable you to display DVD video.
Refer to your DVD player owner's manual for more information.

Connect the LCD Monitor to a DVD Player

• To connect the DVD/HD In connector (BNC) on the LCD monitor, use a separately available BNC connector cable. You will need a BNC-to-RCA adapter to connect a DVD player with an RCA pin jack to the BNC connector cable (not provided).
• The AUDIO IN 2 and 3 (both RCA) can be used for audio input. For connection, select [AUDIO 1], [AUDIO 2], [AUDIO 3] or [HDMI] from the AUDIO INPUT button. You can select HDMI only when RGB 1 or 2 is selected.
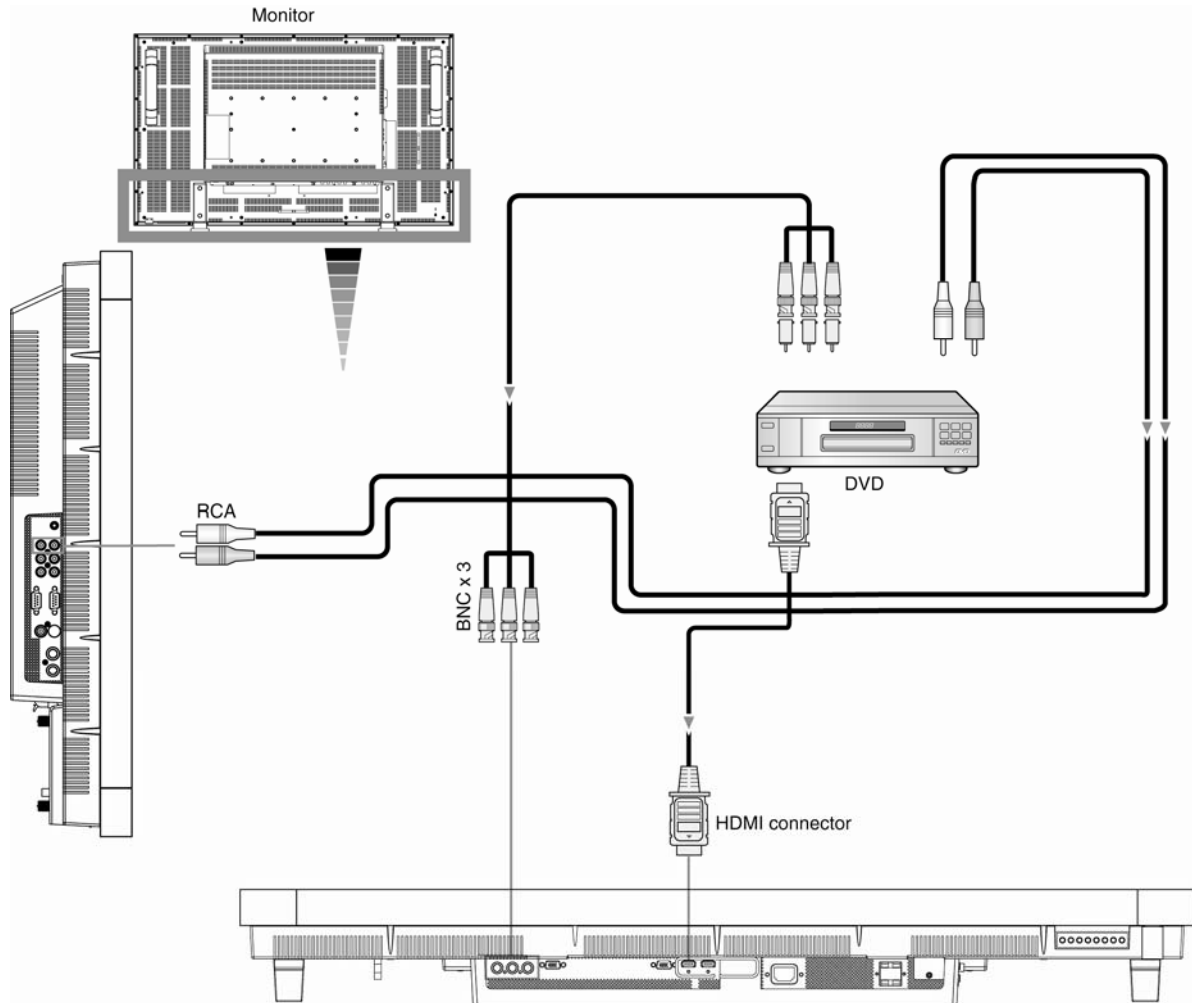
Connecting to a Stereo Amplifier

You can connect your stereo amplifier to your LCD monitor. Refer to your amplifier owner's manual for more information.

Connect the LCD Monitor to a Stereo Amplifier

- Turn on the LCD monitor and the amplifier only after all connections have been made.
- Use an RCA cable to connect the AUDIO OUT connector (RCA) on the LCD monitor and the audio input on the amplifier.
- Do not reverse the audio left and right jacks.
- The AUDIO IN 2 and 3 (both RCA) can be used for audio input. For connection, select [AUIDO1], [AUDIO2], [AUDIO3] or [HDMI] from the AUDIO INPUT button. You can select HDMI only when RGB 1 or 2 is selected.
- The AUDIO OUT jack outputs sound from the selected Audio input.

Basic Operation

Power ON and OFF Modes

The LCD monitor power indicator will turn green while powered on or red in off mode. The monitor can be powered on or off using the following three options:

1. Pressing the Main Power Switch.

NOTE:
When the Main Power Switch is used to power off the LCD monitor, the remote control and the power button will not activate the on mode and both green and red power indicator turn off. Be sure to turn the Main Power Switch to the on mode before using these two options.
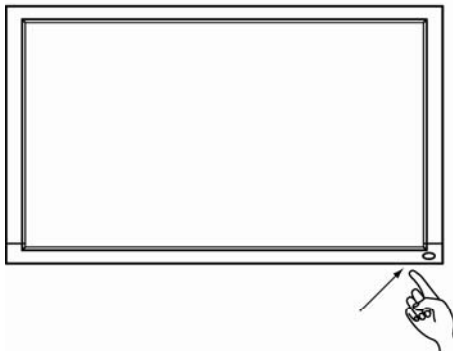
2. Pressing the power button.

NOTE:
Before pressing the power button, be sure to turn on the Main Power button on the LCD monitor.
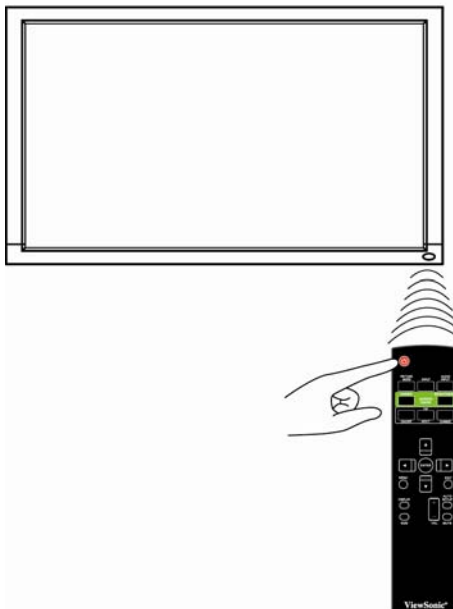
3. Using the remote control.

NOTE:
Before operating the remote control, be sure to turn on the Main Power Switch on the LCD monitor.

Power Indicator

	Status
Power ON	Green
Power OFF	Red
Power Standby when "SCHEDULE" is enable	Red On Green Blinking
Power Standby	Red, Green
Diagnosis (Detecting failure)	Red Blinking * See troubleshooting

Using Power Management

The LCD monitor follows the VESA approved DPM Power Management function.
The power management function is an energy saving function that automatically reduces the power consumption of the display when the keyboard or the mouse has not been used for a fixed period.
The power management feature on your new display has been set to the "ON" mode. This allows your display to enter a Power Saving Mode when no signal is applied. This could potentially increase the life and decrease the power consumption of the display.

Selecting a video source To view a video source:

Use the input button to set [VIDEO].
Use the COLOR SYSTEM menu to set [AUTO], [NTSC], [PAL], [SECAM], [PAL60], [4.43NTSC], according to your video format.

Picture Size

RGB 1, 2, 3   FULL⟶NORMAL⟶CUSTOM
                REAL ◄

DVD/HD, VIDEO   FULL⟶NORMAL⟶DYNAMIC
        REAL◄   CUSTOM ◄

Signal Type	NORMAL SIZE	Recommended Size
4:3		NORMAL
		DYNAMIC
Squeeze		FULL

NORMAL: Display by the inputted signal aspect ratio by PC signal, or display in 4:3 aspect ratio at DVD/HD or VIDEO signal.
FULL: Display in entire screen.
DYNAMIC: Expand 4:3 pictures to the entire screen with non-linearity. (Some round image will be cut by expansion.)
CUSTOM (ZOOM): Image can be expanded beyond the active display area. The image which is outside of active diaplay area is not displayed.
REAL: Image will be displayed 1 by 1 pixel.

ZOOM

ZOOM

Picture Mode

RGB 1, 2, 3   HIGHBRIGTH ————→ STANDARD ————→ sRGB

DVD/HD, VIDEO   HIGHBRIGTH ————→ STANDARD ————→ CINEMA

Audio Source Switching

You can switch the audio source using the AUDIO INPUT button.

RGB 1, 2   HDMI ——→ AUDIO1 ——→ AUDIO2 ——→AUDIO3

Other than RGB 1, 2 AUDIO1 ——→ AUDIO2 ——→ AUDIO3
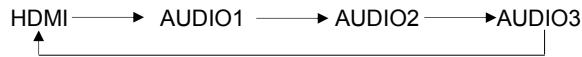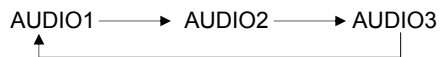
Control Lock Mode

This function disables the operation buttons so that the adjustments you make are not changed when they are pressed.
To disable the buttons, press and hold down the ▲ and ▼ buttons together for at least 3 seconds.
To enable the buttons, press and hold down the ▲ and ▼ buttons together for at least 3 seconds again.

Information OSD
RGB1, 2, 3

RGB3
1024 x 768
48kHz 60Hz
AUDIO : 1
SIZE : FULL

←Video Input mode
←Input signal Information

←Audio input mode
←Picture Size mode

DVD/HD

DVD/HD
AUDIO : 3
SIZE : FULL

←Video Input mode
←Audio input mode
←Picture Size mode

VIDEO<S>, VIDEO

VIDEO<S>
NTSC
AUDIO : 3
SIZE : NORMAL

←Video Input mode
←Input Signal Colour System mode
←Audio input mode
←Picture Size mode

PIP or POP

RGB3
1024 x 768
48kHz 60Hz
AUDIO : 1
VIDEO<S>
NTSC
SIZE : FULL

←Main picture Information

←Sub picture Information

←Main picture Information

OSD (On-Screen-Display) Controls

Remote Control

Press MENU button to open Main menu. Press ▲ or ▼ button to select sub-menu.

Press ENTER button to decide.

Press ▲ or ▼, and ◄ or ► button to select function, or control which you like. Press ENTER button to decide.

Press MENU or EXIT button to exit.
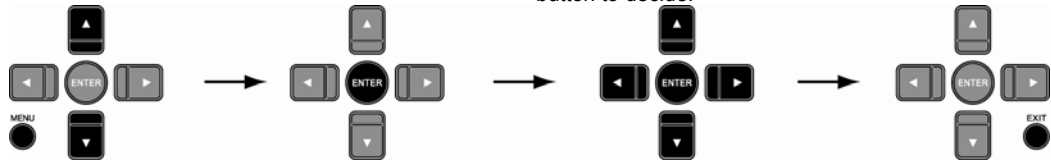
Control Panel

Press EXIT button to open Main menu. Press ▲ or ▼ button to select.

Press INPUT button to decide

Press ▲ or ▼, and ＋ or － button to select function, or control which you like. Press INPUT button to decide

Press EXIT button to exit.

▲ or ▼ button   INPUT button   － or ＋ button   EXIT button
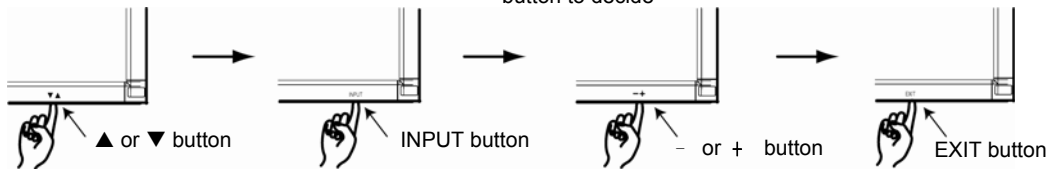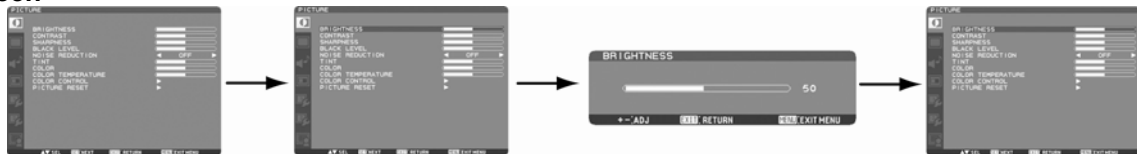
OSD Screen

PICTURE
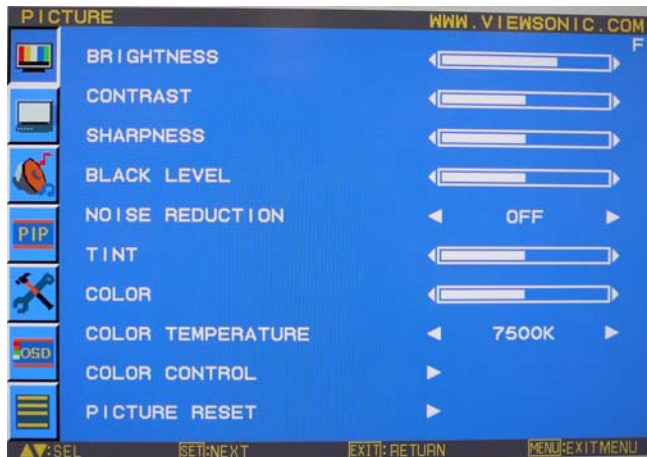
BRIGHTNESS
- Adjusts the overall image and background screen brightness.
- Press + button to increase brightness.
- Press - button to decrease brightness.

CONTRAST
- Adjusts the image brightness in relation to the input signal.
- Press + button to increase contrast.
- Press - button to decrease contrast.

SHARPNESS
- This function is digitally capable to keep crisp image at any timings.
- It is adjustable to get a distinct image or a soft one as you prefer and set independently for each picture mode.
- Press + button to increase sharpness.
- Press - button to decrease sharpness.

BLACK LEVEL
- Adjusts the image brightness in relation to the background.
- Press + button to increase black level.
- Press - button to decrease black level.
- NOTE: sRGB picture mode is standard and cannot be changed.

NOISE REDUCTION * : INPUT VIDEO<S>, VIDEO only
- Adjusts the noise reduction level.
- Press + button to increase reduction level.
- Press - button to decrease reduction level.

TINT * : INPUT RGB1, 2(HDMI INPUT MODE-HD), DVD/HD, VIDEO<S>, VIDEO only
- Adjust the tint of the screen.
- Press + button the flesh tone color becomes greenish.
- Press - button the flesh tone color becomes purplish.

COLOR * : INPUT RGB1, 2(HDMI INPUT MODE-HD), DVD/HD, VIDEO<S>, VIDEO only
- Adjust the color of the screen.
- Press + button to increase color depth.
- Press - button to decrease color depth.

COLOR TEMPERATURE
- Use to adjust the color temperature.
- The image becomes reddish as the color temperature decreases, and it becomes bluish as the color temperature increases.

COLOR CONTROL
- The color levels of red, green, and blue are adjusted by the color bars.
- R: Red, G: Green, B: Blue

PICTURE RESET
- Selecting Picture reset allows you to reset all OSD settings about PICTURE setting.
- Select "Yes" and press "SET" button to restore to factory preset data.
- Press "EXIT" button to cancel and then return to the previous menu.

SCREEN
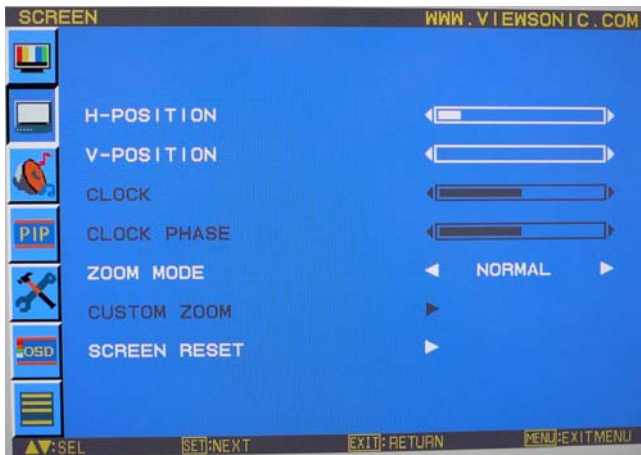
H POSITION
- Controls Horizontal Image position within the display area of the LCD.
- Press + button to move screen to right.
- Press - button to move screen to left.

V POSITION
- Controls Vertical Image position within the display area of the LCD.
- Press + button to move screen to UP.
- Press - button to move screen to DOWN.

CLOCK * : INPUT RGB3,4 only
- Press + button to expand the width of the image on the screen the right.
- Press - button to narrow the width of the image on the screen the left.

CLOCK PHASE * : INPUT RGB3,4 only
- Improves focus, clarity and image stability by increasing or decreasing this setting.

ZOOM MODE
- You can select "FULL", "NORMAL" and "CUSTOM" and "REAL". (INPUT RGB1/2/3/4 only) You can also select "FULL", "NORMAL" "DYNAMIC" and "CUSTOM" and "REAL". (INPUT DVD/HD, VIDEO<S>, VIDEO only)
- Selecting "DYNAMIC" will make the screen display panoramic with the expansion of the middle and outside of the screen changed. (The upper and the bottom of the image will be cut by expansion.)
- Dynamic image is the same as FULL size image when HDTV signal is input.
- Selecting "REAL" image will be displayed 1 by 1 pixel.

CUSTOM ZOOM
- "CUSTOM ZOOM" will be selected when you select "CUSTOM" on the screen "ZOOM" mode.
- ZOOM: expands the horizontal and the vertical size simultaneously.
- HZOOM: expands the horizontal size only.
- VZOOM: expands the vertical size only.
- H POSITION: moves to the right with + button. moves to the left with – button.
- V POSITION: moves up with + button. moves down with – button.

SCREEN RESET
- Selecting Screen reset allows you to reset all OSD settings from PICTURE setting.
- Select "Yes" and press "SET" button to restore the factory preset data.
- Press "EXIT" button to cancel and then return to the previous menu.

AUDIO
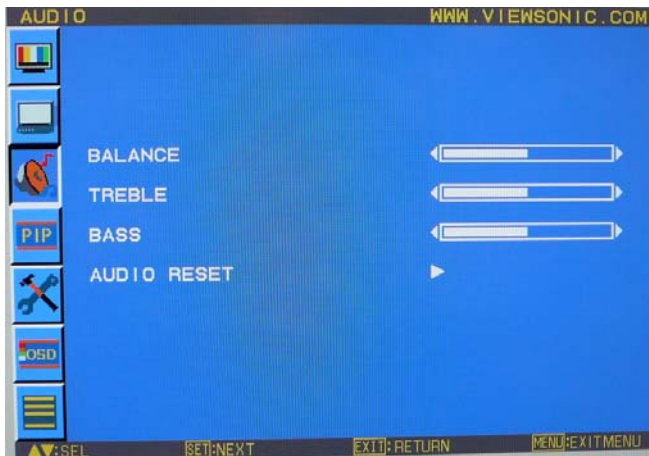
BALANCE
- Adjust the balance of L/R volume.
- Press + button to move the stereo sound image to right.
- Sound of the left side will be small.
- Press - button to move the stereo sound image to left.

TREBLE
- To accentuate or reduce the high frequency sound.
- Press + button to increase TREBLE sound.
- Press - button to decrease TREBLE sound.

BASS
- To accentuate or reduce the low frequency sound.
- Press + button to increase BASS sound.
- Press - button to decrease BASS sound.

AUDIO RESET
- Selecting Audio reset allows you to reset all OSD settings from AUDIO setting.
- Select "YES" and press "SET" button to restore the factory preset.
- Press "EXIT" button to cancel and then return to the previous menu.

PIP (PICTURE IN PICTURE)

Note: The "PIP" and "POP" modes do not function when the screen size is "CUSTOM" or "REAL".

PIP SIZE
• Selecting the size of picture inserted at the "Picture-in-Picture" (PIP) mode.
• "Large", "Middle" and "Small" are available.

PIP AUDIO
• Selecting the sound source in PIP mode.
• When selecting "MAIN AUDIO", you will get the sound for the main picture and when selecting "PIP AUDIO", you will get the sound for the picture instead.

PIP RESET
• Selecting PIP Reset allows you to reset all OSD settings from PIP setting.
• Select "Yes" and press "SET" button to restore the factory preset data.
• Press "EXIT" button to cancel and then return to the previous menu.

CONFIGURATION 1

AUTO SETUP * : INPUT RGB3,4 only
- Press "SET" button to automatically adjust screen size, horizontal position, vertical position, clock, clock phase, white level and black level.
- Press "EXIT" button to cancel execution AUTO SETUP and then will return to the previous menu.

AUTO ADJUST * : INPUT RGB3,4 only
- Selecting the auto adjust ON/OFF.
- Selecting ON when changing the timing, the horizontal position, vertical position and clock-phase will adjust automatically.

POWER SAVE
- Selecting RGB "ON", the monitor will go to power management mode when RGB1,2,3,4 sync is lost.
- Selecting VIDEO "ON", the monitor will go to power management mode after about 10 minutes delay from when DVD/HD and VIDEO input signal is lost.

LANGUAGE
- OSD control menus are available in eight languages. (English, German, Spanish, French, Chinese and Russian)

SCREEN SAVER *Select "SCREEN SAVER" functions to reduce the risk of the "image persistence".
- BRIGHTNESS: The brightness is decreased when selected "ON".
- MOTION: Image is slightly expanded and moves 4 directions (UP, DOWN, RIGHT, LEFT) periodically (Need setting the time for movement).
- Movement area is approximately +/- 10mm from original position;
- Please locate the important information such as text within 90% area of screen image.
- See note (1) for this functions.
- PIP and STILL will be disabled when "MOTION" is active.

COLOR SYSTEM * : INPUT VIDEO<S>, VIDEO only
- Selecting the Color System depends on your input video format.
- AUTO: NTSC, PAL, SECAM, PAL60 or 4.43 NTSC is automatically selected.
- NTSC: Specific selection of NTSC.
- PAL: Specific selection of PAL.
- SECAM: Specific selection of SECAM.
- PAL-60: Specific selection of PAL60.
- 4.43NTSC: Specific selection of 4.43 NTSC.

CONFIGURATION RESET
- Selecting the CONFIGURATION RESET allows you to reset all configuration settings.
- Select "Yes" and press "SET" button to restore the factory preset data.
- Press "EXIT" button to cancel and return the previous menu.

FACTORY RESET
- Selecting "YES" allows you to reset PICTURE, SCREEN, AUDIO, CONFIGURATION1,2 and ADVANCED OPTION will be back to factory settings (except LANGUAGE, DATE & TIME and SCHEDULE).
- Select "YES" and press "SET" button to restore the factory preset data. Press "EXIT" button to cancel and return the previous menu.

CONFIGURATION 2
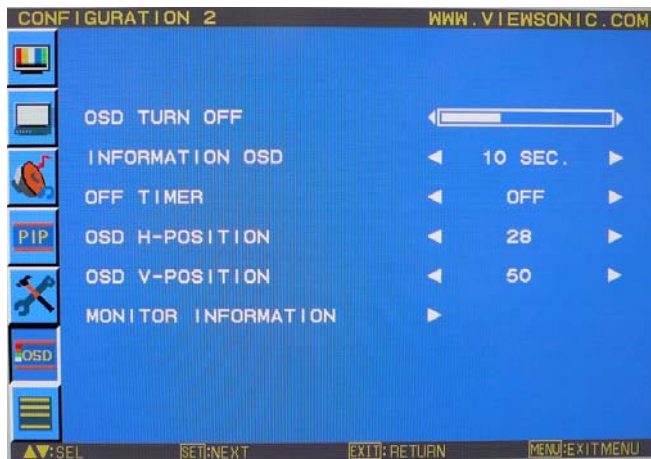
OSD TURN OFF
- The OSD control menu will stay on as long as it is use. In the OSD Turn Off submenu, you can select how long the monitor waits after the last touch of a button to shut off the OSD control menu.
- The preset choices are 5 -120 seconds.

INFORMATION OSD
- Selects the information OSD display or not.
- The information OSD will display when input signal or source change or warning message like as no-signal or out-of range.
- A time between 1 to 10 seconds is available.

OFF TIMER
- To select OFF TIMER mode ON/OFF.
- In the OFF TIMER menu, you can preset the monitor to automatically power down.
- A time between 1 to 24 hours is available.
- When the OFF TIMER is set, the SCHEDULE settings will be disabled.

OSD H POSITION
- Adjusts the horizontal position of the OSD menu.

OSD V POSITION
- Adjusts the vertical position of the OSD menu.

MONITOR INFORMATION
- Indicates the model and serial number of your monitor.

ADVANCED OPTION
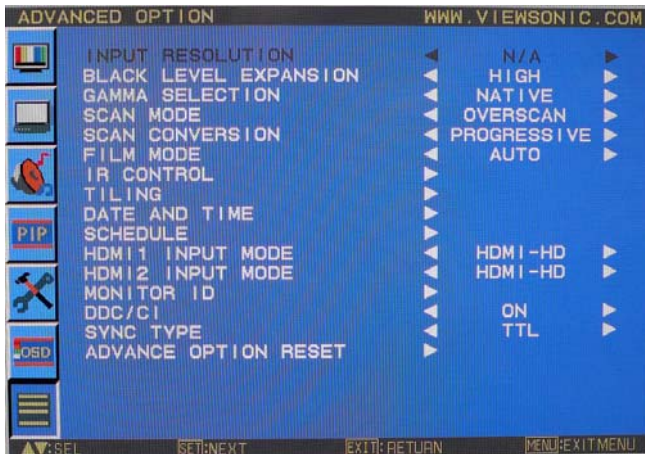
INPUT RESOLUTION * : INPUT RGB3,4 only
- Selects to decision of input signal about below timings, 1024x768, 1280x768 and 1360x768.
- AUTO: Determines the resolution automatically.
- 1024x768: Determines the resolution as 1024x768
- 1280x768: Determines the resolution as 1280x768
- 1360x768: Determines the resolution as 1360x768
- The setting you select becomes effective when POWER is turned OFF and ON again.

BLACK LEVEL EXPANSION * : INPUT RGB1,2(HDMI INPUT MODE-HD), VIDEO<S>, VIDEO only
- Selects a level of black expansion from "OFF", "MIDDLE" and "HIGH."
- In case of go under the black cut-off level, please adjust the "Black level" in moderation on OSD menu.

GAMMA SELECTION
- Selects a display gamma.
- 2.2
- 2.4
- S gamma
- Native
- NOTE: sRGB picture mode is standard and cannot be changed.

SCAN MODE * : INPUT DVD/HD, VIDEO<S>, VIDEO only
- Changes the display area of the image.
- OVERSCAN: Set to display area about 95%
- UNDERSCAN: Set to display area about 100%

SCAN CONVERSION * : INPUT DVD/HD, VIDEO<S>, VIDEO only
- Selects IP (Interlace to Progressive) converter function.
- PROGRESSIVE: Enable the IP function, to convert interlace signal to progressive. Normally use this setting.
- INTERLACE*: Disable the IP function.
- *NOTE: This mode is better suited for motion pictures, but it increases chance of image retention.

FILM MODE * : INPUT DVD/HD, VIDEO<S>, VIDEO only
- Selects Film mode function.
- AUTO: Enable the Film mode function. This mode is better suited for movies, which is converted 24 Frames/sec source to DVD Video. We recommend to select "PROGRESSIVE" in "SCAN CONVERSION".
- OFF: Disable the Film mode function. This mode is better suited for Broadcasting or VCR source.

IR CONTROL
- Selects the operation mode of the wireless remote controller when multiple CD4620 monitors are connected via RS-232C.
- The item in this menu will become effective by pressing "SET" button on the selected item.
- NORMAL: The monitor will be controlled normally by wireless remote controller.
- PRIMARY: The first CD4620 monitor of those multi-connected via RS-232C is designated as PRIMARY.
- SECONDARY: CD4620 monitors other than the first one multi-connected via RS-232C are designated as SECONDARY.
- LOCK: Disable the monitor control by infrared wireless remote controller.
- Keep pressing "DISPLAY" button during 5 sec or more, this setting will return to "NORMAL".

TILING
- TILING demonstrates multiple screens. This feature provides a single large screen using up to 25 monitors.
- It will be able to divide up to 5 each H and V.
- This requires you to feed the PC output into each of the monitors through a distributor.
- H MONITORS: Select number of horizontal divide.
- V MONITORS: Select number of vertical divide.
- POSITION: Select a position to expand the screen.
- FRAME COMP: Works in tandem with TILING to compensate for the width of the tile bezels in order to accurately display the image.
- ENABLE: Select "YES", the monitor will expand the selected position.
- PIP and STILL will be disabled when "TILING" is activated.

POWER ON DELAY
- Adjusts the delay time from "standby" to "power on" mode.
- "POWER ON DELAY" time is selectable from OFF, 2sec, 4sec, 6sec, 8sec, 10sec, 20sec, 30sec, 40sec and 50sec.

DATE AND TIME
- Adjusts the current date and time for internal clock.
- You should set this function when you use "SCHEDULE".

SCHEDULE
- Programs the monitor's working schedule.
- Schedule the power on and power off with hour and a day of the week. Also sets the input port.
- This OSD can't remove except EXIT. (see "NOTE 2" on page 30 for further information)

MONITOR ID
- ID numbers for remote control are assigned to CD4620 monitors that are multi-connected via RS-232C.
- ID numbers 1 to 26 are selectable.

DDC/CI
- Use to turn ON or OFF the DDC/CI communication function. Select ON for normal use.

SYNC TYPE
- Select "0.3V" for 0.3 Composite Sync.
- Select "TTL" for TTL Sync.

ADVANCED OPTION RESET
- Selecting ADVANCED OPTION reset allows you to reset all OSD settings from ADVANCED OPTION settings, except for DATE & TIME.
- Select "YES" and press "SET" button to restore the factory preset data.
- Press "EXIT" button to cancel and then return the previous menu.

NOTE 1: IMAGE PERSISTENCE
- Please be aware that LCD Technology may experience a phenomena known as Image Persistence. Image Persistence occurs when residual or "ghost" image of a previous image remains visible on the screen. Unlike CRT monitors, LCD monitors' image persistence is not permanent, but constant images being displayed for a long period of time should be avoided.
- To alleviate image persistence, turn off the monitor for as long as the previous image was displayed. For example, if an image was on the monitor for one hour and a residual image remains, the monitor should be turned off for one hour to erase the image.
- As with all personal display devices, ViewSonic recommends displaying moving images and using a moving screen saver at regular intervals whenever the screen is idle or turning off the monitor when not in use.
  Please set "POWER SAVE", "SCREEN SAVER", "DATE &TIME" and "SCHEDULE" functions to further reduce the risk of Image persistence.

For long life use of Public Display

< Image Sticking of LCD Panel >

When LCD panel is operated continuously for long hours, a trace of electric charge remains near the electrode inside LCD, and residual or "ghost" image of previous image may be observed. (Image Persistence)
Image Persistence is not permanent, but when fixed image is displayed for long period, ionic impurities inside LCD are accumulated along the displayed image, and it is observed permanently. (Image Sticking)

< Recommendations >

For preventing the fast transition to Image Sticking, and for longer life usage of LCD, following are recommended.
1.   Fixed image should not be displayed for long period, and changed to another images with short cycle.
2.   When no use, please turn off the monitor by remote control, or use Power Management Function of monitor or use Schedule Function of monitor.
3.   Reducing the environmental temperature is effective for long life use.
4.   Please use "Screen Saver Mode" of monitor.

NOTE 2: HOW TO SETUP SCHEDULE
- Using the "SCHEDULE" function allows you to set up to seven different scheduled time intervals when the LCD Monitor will be activated.
- You can select the time the monitor turns on and turns off, the day of week the monitor is activated, and which input source the monitor will use for each scheduled activation period. A check mark in the box next to the number of the schedule indicates that the selected schedule is in effect.
- To select which schedule to set, use the up/down arrows to move the number (1 to 7) of the schedule.
- Use the (+) and (-) buttons to move the cursor horizontally within the particular schedule. Use the (▲) and (▼) buttons to increase time and select input port. The "SET" button is used to make a selection.
- If you create a schedule but do not want to use a power on time, select "--" in the "ON" time slot.
- If you do not want to use a power off time select "--" in the OFF time slot.
- If there is no input selected ("--" showing in the input spot) the input from the previous schedule will be used.
- The selection of EVERY DAY within a schedule takes priority over other schedules that are set up to operate weekly.
- When schedules are overlapping, scheduled Power ON time has priority over scheduled Power OFF time.
- If there are two schedules programmed for the same time, then the highest numbered schedule has priority.
  When the "OFF TIMER" is set, the "SCHEDULE" function is disabled.

NOTE 3: "PIP", "POP" and "SIDE BY SIDE"
The following table shows the combination of signal inputs under which the "PIP" and "POP" modes function. These modes do not function however when the screen size is "CUSTOM" or "REAL".

		SUB						
		RGB1	RGB2	RGB3	RGB4	DVD/HD	VIDEO<S>	VIDEO
MAIN	**RGB1**	×	×	×	×	×	○	○
	RGB2	×	×	×	×	×	○	○
	RGB3	×	×	×	×	×	○	○
	DVD/HD	×	×	×	×	×	○	○
	VIDEO<S>	○	○	○	○	○	×	×
	VIDEO	○	○	○	○	○	×	×

○:Supported
×: Not supported

Press the "PIP ON/OFF" buttons on the remote control to change between "PIP", "POP" and "SIDE BY SIDE" mode as shown in the diagram below.
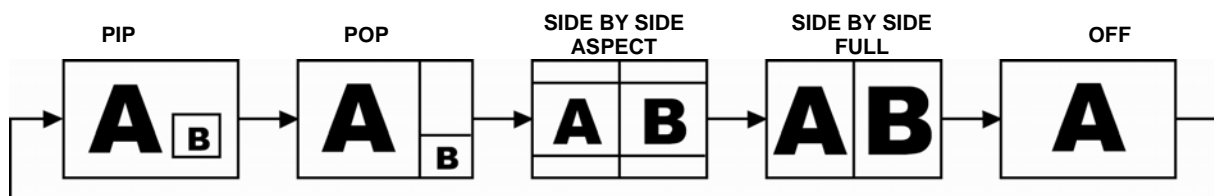
"PIP", "POP" mode resolution (Reference)

```
PIP SIZE        ◁SMALL▷       : 450 dots X 338 dots
                ◁MIDDLE▷      : 675 dots X 450 dots
                ◁LARGE▷       : 900 dots X 675 dots
POP SIZE                      : 450 dots X 338 dots
```

< Remote control numbering function >

By connecting multiple CD4620 monitors using RS-232C cables, you can control any one monitor or all the monitors by one remote controller.

1. Assign arbitrary ID number to each of multi-connected CD4620 monitors using MONITOR ID.
   ID numbers 1 to 26 are selectable.
   It is recommended to assign sequential ID numbers from 1 and up.
2. The remote control mode of the first CD4620 monitor is set to PRIMARY and those of the other monitors are set to SECONDARY.
3. When you direct the remote controller at the remote control signal sensor of the PRIMARY monitor and press the DISPLAY button on the remote controller, the ID selection OSD appears at the upper left of the screen.

```
ID:1  ◄────────────┐        ID number of the currently viewed monitor
ID No. :2 ◄──────┐  │
                 │  │        Select the ID number of the monitor you want to control using the +/- button on the
                 └──┘        remote controller.
                            The ID of the monitor you want to control is displayed at the upper left of its screen.
                            By selecting ALL, you can control all the multi-connected monitors.
```
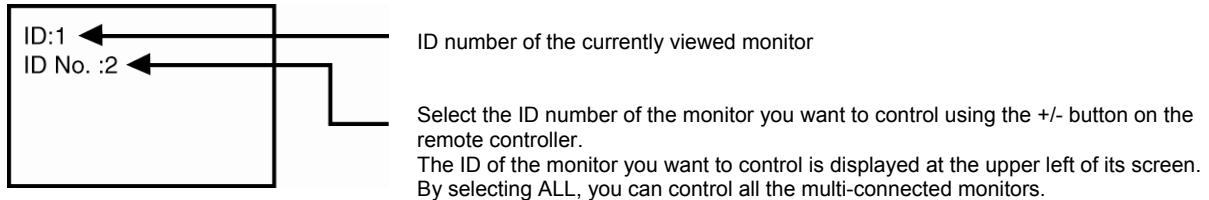
4. Direct the remote controller at the remote control signal sensor of the PRIMARY monitor.
   OSD appears on the monitor having the ID number you selected.

NOTE:
When the ID selection OSD is being displayed on the PRIMARY monitor, press the DISPLAY button on the remote controller again to cancel the ID selection OSD and then control the monitor you selected.

HINT:
If you set the remote control mode wrongly and remote control operation becomes unavailable, press any button on the control panel of the monitor to display the OSD screen and change the remote control mode using ADVANCED OPTION. By pressing and holding down the DISPLAY button on the remote control for 5 seconds or longer, the remote control mode is initialized to NORMAL.

Controlling the LCD monitor via RS-232C Remote Control

This LCD monitor can be controlled by connecting a personal computer with a RS-232C terminal.
Functions that can be controlled by a personal computer are:

Connection
LCD Monitor + PC
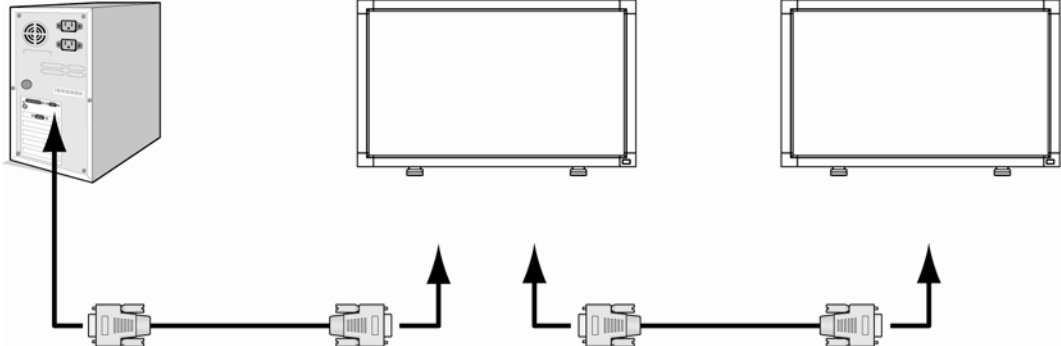
NOTE:
We have two kinds of RS-232 protocol including serious connection and no serious connection that can use by user.

Appendix: Installing and removing stands

How to install stands

1. Please turn monitor off.
2. After inserting stand in guide block, fasten Thumbscrews on both sides of the monitor.

NOTE:

Install the stands so that their longer portions come to the front.

How to remove the stands

1. Spread the protective sheet on the fl at surface, such as a desk.
2. Place monitor on the protective sheet.
3. Remove screws with a screwdriver and place them in a safe place for reuse.

Screws

Longer portion comes to the front.
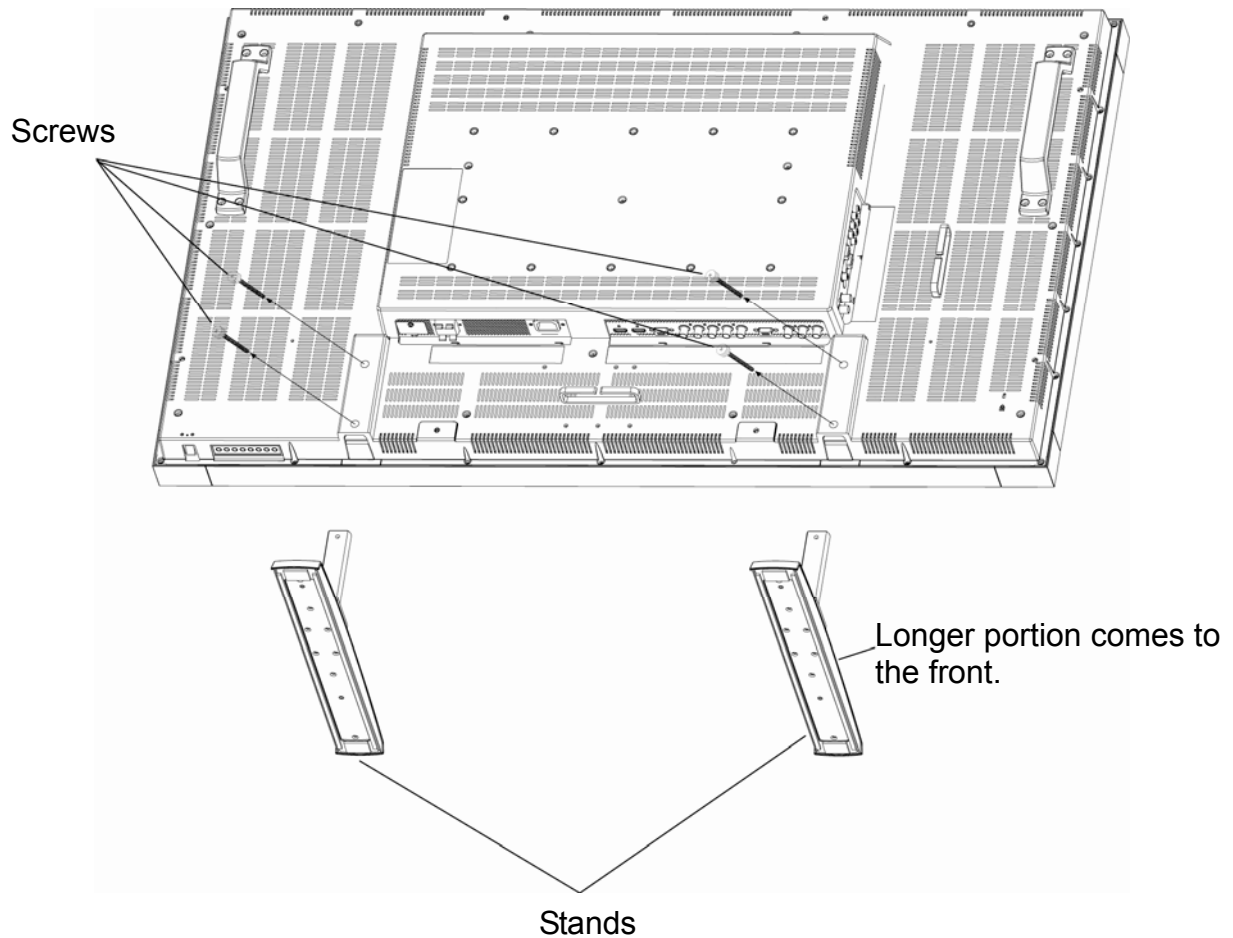
Stands

* Stand is not supply. (Stand sold as an option accessory)

Features

Reduced Footprint:
Provides the ideal solution for environments requiring superior image quality but with size and weight limitations.
The monitor's small footprint and low weight allow it to be moved or transported easily from one location to another.

Color Control Systems:
Allows you to adjust the colors on your screen and customize the color accuracy of your monitor to a variety of standards.

sRGB Color Control:
A new optimized color management standard which allows for color matching on computer displays and other peripherals. The sRGB standard, which is based on a calibrated color space, allows for optimal color representation and backward compatibility with other common color standards.

OSD (On-Screen-Display) Controls:
Allow you to quickly and easily adjust all elements of your screen image via simple to use on-screen menus.

Plug and Play:
The Microsoft® solution with the Windows® 95/98/Me/2000/XP operating system facilitates setup and installation by allowing the monitor to send its capabilities (such as screen size and resolutions supported) directly to your computer, automatically optimizing display performance.

Intelligent Power Manager System:
Provides innovative power-saving methods that allow the monitor to shift to a lower power consumption level when on but not in use, saving two-thirds of your monitor energy costs, reducing emissions and lowering the air conditioning costs of the workplace.

Multiple Frequency Technology:
Automatically adjusts monitor to the display card's scanning frequency, thus displaying the resolution required.

FullScan Capability:
Allows you to use the entire screen area in most resolutions, significantly expanding image size.

Wall Mounting Interface:
Allows for the monitor to be mounted on a wall or an arm using any third party compliant device. VIEWSONIC recommends using mounting interface that comply with TÜV-GS and/or UL1678 standard in North America.

TILING, Frame compensation:
Demonstrates multiple screens with an accurate image and compensates for the bezel width.

ZOOM:
Expands the image individually for horizontal and vertical direction.

Self-diagnosis:
When an internal error should occur, a failure state will be indicated.

Troubleshooting

No picture
• The signal cable should be completely connected to the display card/computer.
• The display card should be completely seated in its slot.
• Front Power Switch and computer power switch should be in the ON position.
• Check to make sure that a supported mode has been selected on the display card or system being used.
(Please consult display card or system manual to change graphics mode.)
• Check the monitor and your display card with respect to compatibility and recommended settings.
• Check the signal cable connector for bent or pushed-in pins.
• If nothing is displayed on the screen when HDCP device is connected, reset the power of the device.

Power Button does not respond
• Unplug the power cord of the monitor from the AC outlet to turn off and reset the monitor.

Image persistence
• Please be aware that LCD Technology may experience a phenomenon known as Image Persistence. Image Persistence occurs when a residual or "ghost" image of a previous image remains visible on the screen. Unlike CRT monitors, LCD monitors' image persistence is not permanent, but constant images being displayed for a long period of time should be avoided. To alleviate image persistence, turn off the monitor for as long as the previous image was displayed. For example, if an image was on the monitor for one hour and a residual image remains, the monitor should be turned off for one hour to erase the image.
NOTE:
As with all personal display devices, VIEWSONIC recommends displaying moving images and using a moving screen saver at regular intervals whenever the screen is idle or turning off the monitor when not in use.

Image is unstable, unfocused or swimming is apparent
• Signal cable should be completely attached to the computer.
• Use the OSD Image Adjust controls to focus and adjust display by increasing or decreasing the fine adjustment.
When the display mode is changed, the OSD Image Adjust settings may need to be re-adjusted.
• Check the monitor and your display card with respect to compatibility and recommended signal timings.
• If your text is garbled, change the video mode to non-interlace and use 60 Hz refresh rate.

Image of component signal is greenish
• Check to see if the DVD/HD input connector is selected.

LED on monitor is not lit (no green or red color can be seen)
• Power Switch should be in the ON position and power cord should be connected.
• Make certain the computer is not in a power-saving mode (touch the keyboard or mouse).

RED LED on monitor is blinking
• A certain failure might have occurred, please contact your nearest authorized VIEWSONIC service facility.

Display image is not sized properly
• Use the OSD Image Adjust controls to increase or decrease the coarse adjustment.
• Check to make sure that a supported mode has been selected on the display card or system being used.
(Please consult display card or system manual to change graphics mode.)

Selected resolution is not displayed properly
• Use OSD Display Mode to enter Information menu and confirm that the appropriate resolution has been selected.
If not, select corresponding option.

No Sound
• Check to see if speaker cable is properly connected.
• Check to see if mute is activated.
• Check to see if volume is set at minimum.

Remote Control is not available
• Check the Remote Control's batteries status.
• Check if batteries are inserted correctly.
• Check if the Remote Control is pointing at the monitor's remote sensor.

"SCHEDULE"/"OFF TIMER" function is not working properly
• The "SCHEDULE" function will be disabled when the "OFF TIMER" is set.
• If the "OFF TIMER" function is enable and the power to the LCD monitor is turned off if the power supply is interrupted unexpectedly, then the "OFF TIMER" will be reset.

Stripe Noise
Either light vertical or horizontal stripes may appear, depending on the specific display pattern. This is no product fault or degradation.

"NO SIGNAL" is displayed on the screen
Image may not be displayed right after HDCP device is connected.

Specifications

Product specifications		Analog Input	Digital Input
LCD Module	Diagonal:	46" / 116.8 cm	
	Pixel Pitch:	0.53025 mm	
	Resolution:	1920 x 1080 dots	
	Color:	Over 16 million colors (depending on video card used)	
	Brightness:	450 cd/m2 (typ.)	
	Contrast Ratio:	1500:1 (typ.)	
	Response time:	6 ms (typ. G to G)	
	View Angle:	Up and Down 176°, Left and Right 176° (typ.) @CR>10	
	Design View Distance:	1100 mm / 43.34 inches	
Frequency	Horizontal:	15.625 / 15.734, 31.5 - 91.1 kHz	
	Vertical:	50.0 / 58.0 - 85.0 Hz	
Pixel Clock		13.5 -165.0 MHz	**25.0 -165.0 MHz**
Viewable Size		1018.08 x 572.67 mm / 40.1 x 22.5 inches	
Input Signal			
PC-Input:	Video:	Analog RGB Video: 0.7 Vp-p	**TMDS**
		Input impedance 75 ohm	
	Sync:	Separate HV sync: TTL level (Pos./Neg.), Sync-on-green, Composite Sync (0.3Vp-p) Input Impedance 2.2K ohm	
	Input-terminal:		**HDMI**
VIDEO Input:		Composite: 1.0 Vp-p	
		Input impedance 75ohm BNC and RCA-PINJACK-INPUT Y/C Y: 1 Vp-p C: 0.286 Vp-p Input	
		Impedance 75 ohm S-TERMINAL-INPUT Component: 1.0 / 0.7 Vp-p	
		Input Impedance 75 ohm BNC-INPUT	
AUDIO Input:		RCA PIN-JACK L/R INPUT x 2, STEREO Mini Jack INPUT x 1	
RS-232C:	In:	9 Pin Mini D-sub	
Output Signal			
PC-Output:	Video:	Analog RGB Video: 0.7 Vp-p with 75 ohm terminated	
	Sync:	Separate HV sync: TTL level (Pos./Neg.)	
	Output-terminal:	15 Pin Mini D-sub	
VIDEO Output:		BNC-OUTPUT x 1, Composite 1.0 Vp-p with 75 ohm terminated	
AUDIO Output:		RCA PIN-JACK L/R OUTPUT x 1, 0.15 Vrms with 47k ohm terminated	
Speaker Output:		External Speaker Jack 7 W + 7 W (8 ohm)	
RS-232C:	Out:	9 Pin Mini D-sub	
Resolutions Supported		640 x 480 at 60 Hz to 85 Hz	
		800 x 600 at 50 Hz, 60Hz to 85 Hz	
		1024 x 768 at 50 Hz, 60Hz to 85 Hz	
		1280 x 768 at 50 Hz, 60Hz to 85 Hz	
		1360 x 768 at 50 Hz, 60Hz to 85 Hz	
		1280 x 1024 at 60Hz to 85 Hz	
		1600 x 1200 at 60 Hz	
		1920 x 1080 at 60Hz*	
		* Recommended Resolution	
		NTSC,PAL,SECAM,4.43NTSC,PAL60 Component:480i,480p,720p,1080i,1080p	
Power Supply		3.2 - 1.38 A @100 - 240 V AC, 50 / 60 Hz	
Power Consumption		Max 285 W	
	Power Save:	Less than 5 W (Power button OFF/Main power switch ON)	
Operational Environment	Temperature:	Landscape: 5 - 40 °C / 41-104 °F, Portrait : 5 - 35 °C / 41 - 95 °F	
	Humidity:	20 - 80 % (Without condensation)	
Storage Environment	Temperature:	-20 - 60 °C / -4 - 140 °F	
	Humidity:	10 - 90% (Without condensation)/90%-3.5%x(Temp-40°C) regarding over 40°C	
Dimension	Net without stand:	1122 mm (W) x 663 mm (H) x 136.3 mm (D) / 44.17" (W) x 26.1" (H) x 5.37" (D)	
	Net with stand:	1122 mm (W) x 703.1 mm (H) x 404.7 mm (D) / 44.17" (W) x 27.68" (H) x 15.93" (D)	
	Gross:	1285 mm (W) x 885 mm (H) x 275 mm (D) / 50.59" (W) x 37.84" (H) x 10.83" (D)	
Weight	Net without stand:	72.6 lbs / 33.0 kg (Approximately)	
	Net with stand:	76.1 lbs / 34.6 kg (Approximately)	
	Gross:	94.6 lbs / 43.0 kg	
Wall mounting interface		12 Holes (100 mm pitches) Optional Multi-purpose Fix Mount	
Complied Regulatory and Guidelines		C-UL/TUV-GS/FCC-B/DOC-B/C-Tick/CE/BSMI/GOST/PSB	
Power Management		VESA DPM	
Plug & Play		VESA DDC2B, DDC/CI	
Accessories		User's Manual, Power Cord, Video Signal Cable, Remote Controller, AAA Battery x 2,	

Note: Technical specifications are subject to change without notice.

Customer Support

For technical support or product service, see the table below or contact your reseller.
NOTE: You will need the product serial number.

Country/Region	Website	T = Telephone F = FAX	Email
Australia/New Zealand	www.viewsonic.com.au	AUS= 1800 880 818 NZ= 0800 008 822	service@au.viewsonic.com
Canada	www.viewsonic.com	T= 1-866-463-4775 F= 1-909-468-5814	service.ca@viewsonic.com
Europe/Middle East/ Baltic countries/North Africa	www.viewsoniceurope.com	Contact your reseller	
Hong Kong	www.hk.viewsonic.com	T= 852 3102 2900	service@hk.viewsonic.com
India	www.in.viewsonic.com	T= 1800 11 9999	service@in.viewsonic.com
Korea	www.kr.viewsonic.com	T= 080 333 2131	service@kr.viewsonic.com
Latin America (Argentina)	www.viewsonic.com/la/	T= 0800-666-0098 F= 1-909-444-5655	soporte@viewsonic.com
Latin America (Brazil)	www.viewsonic.com/la/	T= 0800-891-1829 F= 1-909-444-5655	soporte@viewsonic.com
Latin America (Chile)	www.viewsonic.com/la/	T= 800-440303 F= 1-909-444-5655	soporte@viewsonic.com
Latin America (Columbia)	www.viewsonic.com/la/	T= 01800-9-156588 F= 1-909-444-5655	soporte@viewsonic.com
Latin America (Mexico)	www.viewsonic.com/la/	T= 001-866-823-2004 F= 1-909-444-5655	soporte@viewsonic.com
Renta y Datos, 29 SUR 721, COL. LA PAZ, 72160 PUEBLA, PUE. Tel: 01.222.891.55.77 CON 10 LINEAS Electroser, Av Reforma No. 403Gx39 y 41, 97000 Mérida, Yucatán. Tel: 01.999.925.19.16 Other places please refer to http://www.viewsonic.com/la/soporte/index.htm#Mexico			
Latin America (Peru)	www.viewsonic.com/la/	T= 0800-53311 F= 1-909-444-5655	soporte@viewsonic.com
Macau	www.hk.viewsonic.com	T= 853 700 303	service@hk.viewsonic.com
Puerto Rico & Virgin Islands	www.viewsonic.com	T= 1-800-688-6688 (English) T= 1-866-379-1304 (Spanish) F= 1-909-468-1202	service.us@viewsonic.com soporte@viewsonic.com
Singapore/Malaysia/ Thailand	www.ap.viewsonic.com	T= 65 6461 6044	service@sg.viewsonic.com
South Africa	www.viewsoniceurope.com	www.viewsoniceurope.com/uk/Support/Calldesk.htm	
United Kingdom	www.viewsoniceurope.com /uk/	www.viewsoniceurope.com/uk/Support/Calldesk.htm	
United States	www.viewsonic.com	T= 1-800-688-6688 F= 1-909-468-1202	service.us@viewsonic.com

Limited Warranty
VIEWSONIC® LCD DISPLAY

What the warranty covers:
ViewSonic warrants its products to be free from defects in material and workmanship, under normal use, during the warranty period. If a product proves to be defective in material or workmanship during the warranty period, ViewSonic will, at its sole option, repair or replace the product with a like product. Replacement product or parts may include remanufactured or refurbished parts or components.

How long the warranty is effective:
ViewSonic LCD displays are warranted for 1 years for all parts including the light source and 1 years for all labor from the date of the first consumer purchase.

Who the warranty protects:
This warranty is valid only for the first consumer purchaser.

What the warranty does not cover:
1. Any product on which the serial number has been defaced, modified or removed.
2. Damage, deterioration or malfunction resulting from:
  a. Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
  b. Any damage of the product due to shipment.
  c. Removal or installation of the product.
  d. Causes external to the product, such as electrical power fluctuations or failure.
  e. Use of supplies or parts not meeting ViewSonic's specifications.
  f. Normal wear and tear.
  g. Any other cause which does not relate to a product defect.
3. Any product exhibiting a condition commonly known as "image burn-in" which results when a static image is displayed on the product for an extended period of time.
4. Removal, installation, one way transportation, insurance, and set-up service charges.

How to get service:
1. For information about receiving service under warranty, contact ViewSonic Customer Support (Please refer to Customer Support page). You will need to provide your product's serial number.
2. To obtain warranty service, you will be required to provide (a) the original dated sales slip, (b) your name, (c) your address, (d) a description of the problem, and (e) the serial number of the product.
3. Take or ship the product freight prepaid in the original container to an authorized ViewSonic service center or ViewSonic.
4. For additional information or the name of the nearest ViewSonic service center, contact ViewSonic.

Limitation of implied warranties:
There are no warranties, express or implied, which extend beyond the description contained herein including the implied warranty of merchantability and fitness for a particular purpose.

Exclusion of damages:

ViewSonic's liability is limited to the cost of repair or replacement of the product. ViewSonic shall not be liable for:

1. Damage to other property caused by any defects in the product, damages based upon inconvenience, loss of use of the product, loss of time, loss of profits, loss of business opportunity, loss of goodwill, interference with business relationships, or other commercial loss, even if advised of the possibility of such damages.
2. Any other damages, whether incidental, consequential or otherwise.
3. Any claim against the customer by any other party.
4. Repair or attempted repair by anyone not authorized by ViewSonic.

Effect of state law:

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow limitations on implied warranties and/or do not allow the exclusion of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

Sales outside the U.S.A. and Canada:

For warranty information and service on ViewSonic products sold outside of the U.S.A. and Canada, contact ViewSonic or your local ViewSonic dealer.

The warranty period for this product in mainland China (Hong Kong, Macao and Taiwan Excluded) is subject to the terms and conditions of the Maintenance Guarantee Card.

For users in Europe and Russia, full details of warranty provided can be found in www.viewsoniceurope.com under Support/Warranty Information.

Mexico Limited Warranty
VIEWSONIC® DISPLAY PRODUCTS

What the warranty covers:

ViewSonic warrants its products to be free from defects in material and workmanship, under normal use, during the warranty period. If a product proves to be defective in material or workmanship during the warranty period, ViewSonic will, at its sole option, repair or replace the product with a like product. Replacement product or parts may include remanufactured or refurbished parts or components & accessories.

How long the warranty is effective:

ViewSonic LCD displays are warranted for 1 years for all parts including the light source and 1 years for all labor from the date of the first consumer purchase.

Who the warranty protects:

This warranty is valid only for the first consumer purchaser.

What the warranty does not cover:

1. Any product on which the serial number has been defaced, modified or removed.
2. Damage, deterioration or malfunction resulting from:
   a. Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, unauthorized attempted repair, or failure to follow instructions supplied with the product.
   b. Any damage of the product due to shipment.
   c. Causes external to the product, such as electrical power fluctuations or failure.
   d. Use of supplies or parts not meeting ViewSonic's specifications.
   e. Normal wear and tear.
   f. Any other cause which does not relate to a product defect.
7. Any product exhibiting a condition commonly known as "image burn-in" which results when a static image is displayed on the product for an extended period of time.
8. Removal, installation, insurance, and set-up service charges.

How to get service:

For information about receiving service under warranty, contact ViewSonic Customer Support (Please refer to the attached Customer Support page). You will need to provide your product's serial number, so please record the product information in the space provided below on your purchase for your future use. Please retain your receipt of proof of purchase to support your warranty claim.

For Your Records

Product Name: _____   Model Number: _____

Document Number: _____   Serial Number: _____

Purchase Date: _____   Extended Warranty Purchase? _____ (Y/N)

                                                            If so, what date does warranty expire? _____

1. To obtain warranty service, you will be required to provide (a) the original dated sales slip, (b) your name, (c) your address, (d) a description of the problem, and (e) the serial number of the product.
2. Take or ship the product in the original container packaging to an authorized ViewSonic service center.
3. Round trip transportation costs for in-warranty products will be paid by ViewSonic.

Limitation of implied warranties:

There are no warranties, express or implied, which extend beyond the description contained herein including the implied warranty of merchantability and fitness for a particular purpose.

Exclusion of damages:

ViewSonic's liability is limited to the cost of repair or replacement of the product. ViewSonic shall not be liable for:

1. Damage to other property caused by any defects in the product, damages based upon inconvenience, loss of use of the product, loss of time, loss of profits, loss of business opportunity, loss of goodwill, interference with business relationships, or other commercial loss, even if advised of the possibility of such damages.
2. Any other damages, whether incidental, consequential or otherwise.
3. Any claim against the customer by any other party.
4. Repair or attempted repair by anyone not authorized by ViewSonic.

Contact Information for Sales & Authorized Service (Centro Autorizado de Servicio) within Mexico:

Name, address, of manufacturer and importers:

México, Av. de la Palma #8 Piso 2 Despacho 203, Corporativo Interpalmas,

Col. San Fernando Huixquilucan, Estado de México

Tel: (55) 3605-1099

http://www.viewsonic.com/la/soporte/index.htm

NÚMERO GRATIS DE ASISTENCIA TÉCNICA PARA TODO MÉXICO: 001.866.823.2004

Hermosillo: Distribuciones y Servicios Computacionales SA de CV. Calle Juarez 284 local 2 Col. Bugambilias C.P: 83140 Tel: 01-66-22-14-9005 E-Mail: disc2@hmo.megared.net.mx	*Villahermosa:* Compumantenimietnos Garantizados, S.A. de C.V. AV. GREGORIO MENDEZ #1504 COL, FLORIDA C.P. 86040 Tel: 01 (993) 3 52 00 47 / 3522074 / 3 52 20 09 E-Mail: compumantenimientos@prodigy.net.mx
Puebla, Pue. (Matriz): RENTA Y DATOS, S.A. DE C.V. Domicilio: 29 SUR 721 COL. LA PAZ 72160 PUEBLA, PUE. Tel: 01(52).222.891.55.77 CON 10 LINEAS E-Mail: datos@puebla.megared.net.mx	*Veracruz, Ver.:* CONEXION Y DESARROLLO, S.A DE C.V. Av. Americas # 419 ENTRE PINZÓN Y ALVARADO Fracc. Reforma C.P. 91919 Tel: 01-22-91-00-31-67 E-Mail: gacosta@qplus.com.mx
Chihuahua Soluciones Globales en Computación C. Magisterio # 3321 Col. Magisterial Chihuahua, Chih. Tel: 4136954 E-Mail: Cefeo@soluglobales.com	*Cuernavaca* Compusupport de Cuernavaca SA de CV Francisco Leyva # 178 Col. Miguel Hidalgo C.P. 62040, Cuernavaca Morelos Tel: 01 777 3180579 / 01 777 3124014 E-Mail: aquevedo@compusupportcva.com
Distrito Federal: QPLUS, S.A. de C.V. Av. Coyoacán 931 Col. Del Valle 03100, México, D.F. Tel: 01(52)55-50-00-27-35 E-Mail : gacosta@qplus.com.mx	*Guadalajara, Jal.:* SERVICRECE, S.A. de C.V. Av. Niños Héroes # 2281 Col. Arcos Sur, Sector Juárez 44170, Guadalajara, Jalisco Tel: 01(52)33-36-15-15-43 E-Mail: mmiranda@servicrece.com
Guerrero Acapulco GS Computación (Grupo Sesicomp) Progreso #6-A, Colo Centro 39300 Acapulco, Guerrero Tel: 744-48-32627	*Monterrey:* Global Product Services Mar Caribe # 1987, Esquina con Golfo Pérsico Fracc. Bernardo Reyes, CP 64280 Monterrey N.L. México Tel: 8129-5103 E-Mail: aydeem@gps1.com.mx
MERIDA: ELECTROSER Av Reforma No. 403Gx39 y 41 Mérida, Yucatán, México CP97000 Tel: (52) 999-925-1916 E-Mail: rrrb@sureste.com	*Oaxaca, Oax.:* CENTRO DE DISTRIBUCION Y SERVICIO, S.A. de C.V. Murguía # 708 P.A., Col. Centro, 68000, Oaxaca Tel: 01(52)95-15-15-22-22 Fax: 01(52)95-15-13-67-00 E-Mail. gpotai2001@hotmail.com
Tijuana: STD Av Ferrocarril Sonora #3780 L-C Col 20 de Noviembre Tijuana, Mexico	*FOR USA SUPPORT:* ViewSonic Corporation 381 Brea Canyon Road, Walnut, CA. 91789 USA Tel: 800-688-6688 (English); 866-323-8056 (Spanish); Fax: 1-800-685-7276 E-Mail: http://www.viewsonic.com

4.3: ViewSonic Mexico Limited Warranty   Page 2 of 2   LCD_LW03 Rev. 1a 06-11-07

CD4620/CD4220 RS232 protocol

Table of Content

Version control

Date	Reversion	Changes and additions	by
11/12/2007	V1.0	First release, combine two protocol sets in one document	Tony Kao
	V1.1	Remove section 3.4	Tony Kao
11/14/2007	V1.2	Update base on vender confirmation	Tony Kao Jane Chen

Applicable model
CD4620
CD4220

3. Introduction

This document describes the hardware interface spec and software protocols of RS232 interface communication between Viewsonic Commercial Display and PC or other control unit with RS232 protocol.

Viewsonic CD4620 and CD4220 contain with 2 set of protocol command

1.   Protocol 1, with ID

This set protocol allow user to assign the ID in the command to control the specify ID monitor

2.   Protocol 2, without ID

The set protocol is best for single display control and for Viewsonic NMP-530.

Both sets protocol contain three sections command:

- Set-Function
- Get-Function
- Remote control pass-through mode

※In below document, "PC" will represents all the control units that can sent or receive the RS232 protocol command.

4. Description

4.1   Hardware specification

Viewsonic LCD communication port in the rear side
(1) Connector type: DSUB 9 Pin Male
(2) Pin Assignment

Male DSUB 9Pin

(outside view)
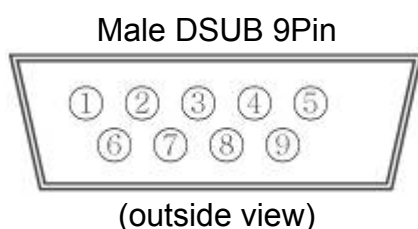
Pin #	Signal	Remark
1	NC	
2	RXD	Input to LCD Monitor
3	TXD	Output from LCD Monitor
4	NC	
5	GND	
6	NC	
7	NC	
8	NC	
9	NC	
frame	GND	

*Use of crossover (null modem) cable required for use with PC

4.2   Communication Setting

- Baud Rate Select: 9600bps (fixed)
- Data bits: 8bits (fixed)
- Parity: None (fixed)
- Stop Bits: 1(fixed)

4.3   Command Message Reference

PC sends to Monitor command packet followed by "CR". Every time PC sends control command to the Monitor, the Monitor shall response as follows:

1. If the message is receives correctly it will send "+" (02Bh) followed by "CR" (00Dh)
2. If the message is receives incorrectly it will send   "-" (02Dh) followed by "CR" (00Dh)

5. Protocol 1 : with ID

5.1 Command Description

Length:	Total Byte of Message excluding "CR"
TV ID	Identification for each of TV
Command Type	Identify command type, "s" (0x73h) : Set Command "g" (0x67h) : Get Command "r" (0x72h) : Reply Command "p" (0x70h) : RCU Pass-through "+" (0x2Bh) : Valid command Reply "-" (0x2Dh) : Invalid command Reply
Command:	Function command code: One byte ASCII code
Value[1~3]:	Three bytes ASCII that defines the value
CR	0x0D

5.2 Set-Function Listing

The PC can control the LCD Monitor for specific actions. The Set-Function command allows you to control the LCD monitor behavior in a remote sit through the RS232 port. The Set-Function packet format consists of 11 bytes.

Set-Function description:

Length:	Total Byte of Message excluding "CR"
TV ID	Identification for each of TV
	If we want to set all TV settings, TV ID can use "**99**" to achieve, and it will not have **Reply** command on this function.
Command Type	Identify command type, "s" (0x73h) : Set Command
Command:	Function command code: One byte ASCII code
Value[1~3]:	Three bytes ASCII that defines the value
CR	0x0D

Set-Function format
Send: (Command Type="s")

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR
Byte Count	1 Byte	2 Byte	1 Byte	1 Byte	1 Byte	1 Byte	1 Byte	1 Byte
Bytes order	1	2~3	4	5	6	7	8	9

Reply: (Command Type="+" or "-")

Name	Length	ID	Command Type	CR
Byte Count	1 Byte	2 Byte	1 Byte	1 Byte
Bytes order	1	2~3	4	5

Example1: Set Brightness as 76 for TV-02 and this command is valid
Send (Hex Format)

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR
Hex	0x38	0x30 0x32	0x73	0x24	0x30	0x37	0x36	0x0D

Reply (Hex Format)

Name	Length	ID	Command Type	CR
Hex	0x34	0x30 0x32	0x2B	0x0D

Example2: Set Brightness as 176 for TV-02 and this command is NOT valid
Send (Hex Format)

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR
Hex	0x38	0x30 0x32	0x73	0x24	0x31	0x37	0x36	0x0D

Reply (Hex Format)

Name	Length	ID	Command Type	CR
Hex	0x34	0x30 0x32	0x2D	0x0D

Example3: Set Tint as 32 for TV-03 and this command is valid
Send (Hex Format)

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR
Hex	0x38	0x30 0x33	0x73	0x27	0x30	0x33	0x32	0x0D

Reply (Hex Format)

Name	Length	ID	Command Type	CR
Hex	0x34	0x30 0x33	0x2B	0x0D

Example4: Set Tint as 75 for TV-03 and this command is NOT valid
Send (Hex Format)

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR
Hex	0x38	0x30 0x33	0x73	0x27	0x30	0x37	0x35	0x0D

Reply (Hex Format)

Name	Length	ID	Command Type	CR
Hex	0x34	0x30 0x33	0x2B	0x0D

Example5: Set Brightness as 76 for all TV and this command is valid
Send (Hex Format)

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR
Hex	0x38	0x39 0x39	0x73	0x24	0x30	0x37	0x36	0x0D

No Reply.

CD4620/CD4220 set-function table

Set Function	Length	ID	Command Type	Command Code (ASCII)	Code (Hex)	Value Range (Three ASCII bytes)	Comments
Power	8		s	!	21	000: STBY 001: ON	Controlled power status: ON or Standby
Input Select	8		s	"	22	000 : VGA 001 : HDMI1 002 : HDMI2 003 : AV 004 : YPbPr 005 : S-Video	
Contrast	8		s	#	23	000 ~ 100	
Brightness	8		s	$	24	000 ~ 100	
Sharpness	8		s	%	25	000 ~ 100	
Color	8		s	&	26	000 ~ 100	
Tint	8		s	'	27	000 ~ 100	
Bass	8		s	.	2E	000 ~ 100	Sets Bass value
Treble	8		s	/	2F	000 ~ 100	Sets Treble value
Balance	8		s	0	30	000 ~ 100	Sets Balance position
Picture Size	8		s	1	31	000 : 16:9 001 : 4:3 002 : ZOOM 003 : PANORAMA	
OSD Language	8		s	2	32	000 : English 001 : French 002 : Spanish 003 : Germany 004 : Italian 005 : Simplified	

						Chinese 006 : Russian	
OSD timeout	8		s	3	33	005 ~120 Sec	Set OSD timeout
Volume	8		s	5	35	000 ~ 100	
Mute	8		s	6	36	000: OFF 001: ON (mute)	
Off Timer	8		s	7	37	000: OFF 001~024 (hour)	
PIP Mode	8		s	9	39	000 : OFF 001: PIP 002: POP 003 : PBP 004 : PBPA	
PIP Sound select	8		s	:	3A	000: Main 001: PIP	
PIP position	8		s	;	3B	000: Up 001: Down 002: Left 003: Right	
PIP Input	8		s	<	3C	000 : VGA 001 : HDMI1 002 : HDMI2 003 : AV 004 : YPbPr 005 : S-Video	
Monitor ID	8		s	=	3D	001 ~ 026	
Key Pad	8		s	A	41	000 : POWER 001 : SOURCE 002 : MENU/EXIT 003 : UP 004 : DOWN 005 : LEFT 006 : RIGHT 007 : MUTE	
Remote Control	8		s	B	42	000: Disable 001: Enable 002: Pass through	**Disable**: RCU has no effect on HDTV. **Enabled**: RCU controls the HDTV. This is the power up default on the HDTV. **Pass through:** RCU has no effect on HDTV and all RCU command codes are transmitted to FC via the RS232 port. See page 26 for more details
Key Pad	8		s	C	43	000: Disable 001: Enable	**Disable**: Key Pad have no effect on HDTV. **Enabled**: Key Pad control the HDTV. This is the power up default on the HDTV.
Factory reset	8		s	~	7E	0	Rests HDTV to factory setting

5.3 Get-Function Listing

The PC can interrogate the LCD Monitor for specific information. The Get-Function packet format consists of 5 bytes which is similar to the Set-Function packet structure. Note that the "Value" byte is always = 00.

Get-Function description:

Length:	Total Byte of Message excluding "CR"
TV ID	Identification for each of TV
Command Type	Identify command type,
	"g" (0x67h) : Get Command
Command:	Function command code: One byte ASCII code
Value[1~3]:	Three bytes ASCII that defines the value
CR	0x0D

Get-Function format
Send: (Command Type="g")

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR
Byte Count	1 Byte	2 Byte	1 Byte	1 Byte	1 Byte	1 Byte	1 Byte	1 Byte
Bytes order	1	2~3	4	5	6	7	8	9

Reply: (Command Type="r" or "-")
If the Command is valid, Command Type ="r"

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR
Byte Count	1 Byte	2 Byte	1 Byte	1 Byte	1 Byte	1 Byte	1 Byte	1 Byte
Bytes order	1	2~3	4	5	6	7	8	9

If the Command is Not valid, Command Type="-"

Name	Length	ID	Command Type	CR
Byte Count	1 Byte	2 Byte	1 Byte	1 Byte
Bytes order	1	2~3	4	5

Example1: Get Brightness from TV-05 and this command is valid.
The Brightness value is 67.
Send (Hex Format)

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR
Hex	0x38	0x30 0x35	0x67	0x62	0x30	0x30	0x30	0x0D

Reply(Hex Format)

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR
Hex	0x38	0x30 0x35	0x72	0x62	0x30	0x36	0x37	0x0D

Example2: Get Brightness from TV-05 , but the Brightness command ID is error and it is NOT in the command table.
Send (Hex Format)

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR
Hex	0x38	0x30 0x35	0x67	0XD3	0x30	0x30	0x30	0x0D

Reply (Hex Format)

Name	Length	ID	Command Type	CR
Hex	0x34	0x30 0x35	0x2D	0x0D

Example3: Get Tint from TV-0007 and this command is valid.
The Tint value is 32.
Send (Hex Format)

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR
Hex	0x38	0x30 0x37	0x67	0X65	0x30	0x30	0x30	0x0D

Reply (Hex Format)

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR
Hex	0x38	0x30 0x37	0x72	0x65	0x30	0x33	0x32	0x0D

Example4: Get Tint from TV-07 , but the Brightness command ID is error and it is NOT in the command table.
Send (Hex Format)

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR
Hex	0x38	0x30 0x37	0x67	0XD7	0x30	0x30	0x30	0x0D

Reply (Hex Format)

Name	Length	ID	Command Type	CR
Hex	0x34	0x30 0x37	0x2D	0x0D

PC Get-function command to CD4620/CD4220 LCD Monitor

Get Function	Length	ID	Command Type	Command Code (ASCII)	Command Code (Hex)	Response Range (Three ASCII bytes)	Comments
Get-Contrast	8		g	a	61	000 ~ 100	Gets Contrast value
Get-Brightness	8		g	b	62	000 ~ 100	Gets Brightness value
Get-Sharpness	8		g	c	63	000 ~ 100	Gets Sharpness value
Get-Color	8		g	d	64	000 ~ 100	Gets Color value
Get-Tint	8		g	e	65	000 ~ 100	Gets Tint value
Get-Volume	8		g	f	66	000 ~ 100	Gets Volume value
Get-Mute	8		g	g	67	000: OFF (unmuted) 001: ON (muted)	Gets Mute ON/OFF status
Get-RCU	8		g	h	68	000: Disable 001: Enable 002: Pass through	Gets RCU mode status
Get-Key Pad	8		g	i	69	000: Disable 001: Enable	Gets Buttons ON/OFF status
Get-Input select	8		g	j	6A	000: VGA 001: HDMI1 002: HDMI2 003: AV 004: YPbPr 005: S-Video	Gets Input select status
Get-Power status	8		g	l	6C	000: STBY 001: ON	Gets the status of the HDTV power. HDTV response: 000 = HDTV is in standby 001 = HDTV is ON
Get-ACK	8		g	z	7A	0	This command is used to test the communication link.

6. Protocol 2 : without ID

6.1 *Set function listing*

The PC can control the LCD Monitor for specific actions. The Set-Function command allows you to control the LCD monitor behavior in a remote sit through the RS232 port. The Set-Function packet format consists of 5 bytes. Note that the "Value" byte is always = 00.

Set-Function description:

Length:	Total bytes of message = 5 ASCII (35H) excluding "CR"
Command:	Function command code: One byte ASCII code
Value[1~3]:	Three bytes ASCII that defines the value

Set-Function format:

Name	Length	Command	Value1	Value2	Value3	CR
Byte Count	1 Byte	1 Byte	1 Byte	1 Byte	1 Byte	1 Byte
Bytes order	1	2	3	4	5	6

All Set-Function from PC to Monitor (ASCII)

Name	Length	Command	Value1	Value2	Value3	CR
Byte Count	**5**	**1 Byte**	**1 Byte**	**1 Byte**	**1 Byte**	**00D**
Bytes order	1	2	3	4	5	6

Example: Set Mute-ON command (ASCII)

Name	Length	Command	Value1	Value2	Value3	CR
Byte Count	**5**	6	0	0	0	**00D**
Bytes order	1	2	3	4	5	6

Example: Set Mute-OFF command (ASCII)

Name	Length	Command	Value1	Value2	Value3	CR
Byte Count	**5**	6	0	0	1	**00D**
Bytes order	1	2	3	4	5	6

Example: Set Tint to 50 command (ASCII)

Name	Length	Command	Value1	Value2	Value3	CR
Byte Count	**5**	'	**0**	5	0	**00D**
Bytes order	1	2	3	4	5	6

LCD Monitor will send "+" (02Bh) and "CR" bytes to PC after receiving a valid command.
LCD Monitor will send "-" (02Dh) and "CR" bytes to PC if the command is not valid.

Value Range:	Three bytes ASCII value range
Command Code:	Function command code in ASCII

CD4620/CD4220 set command table

Set Function	Length	Command Code (ASCII)	Command Code (Hex)	Value Range (Three ASCII bytes)	Comments
Power	5	!	21	000: STBY 001: ON	Controlled power status: ON or Standby
Input Select	5	"	22	000 : VGA 001 : HDMI1 002 : HDMI2 003 : AV 004 : YPbPr 005 : S-Video	
Contrast	5	#	23	000 ~ 100	

Brightness	5	$	24	000 ~ 100	
Sharpness	5	%	25	000 ~ 100	
Color	5	&	26	000 ~ 100	
Tint	5	'	27	000 ~ 100	
Bass	5	.	2E	000 ~ 100	Sets Bass value
Treble	5	/	2F	000 ~ 100	Sets Treble value
Balance	5	0	30	000 ~ 100	Sets Balance position
Picture Size	5	1	31	000 : 16:9 001 : 4:3 002 : ZOOM 003 : PANORAMA	
OSD Language	55	2	32	000 : English 001 : French 002 : Spanish 003 : Germany 004 : Italian 005 : Simplified Chinese 006 : Russian	
OSD timeout	5	3	33	005 ~120 Sec	Set OSD timeout
Volume	5	5	35	000 ~ 100	
Mute	5	6	36	000: OFF 001: ON (mute)	
Off Timer	5	7	37	000: OFF 001~024 (hour)	
PIP Mode	5	9	39	000 : OFF 001: PIP 002: POP 003 : PBP 004 : PBPA	
PIP Sound select	5	:	3A	000: Main 001: PIP	
PIP position	5	;	3B	000: Up 001: Down 002: Left 003: Right	
PIP Input	5	<	3C	000 : VGA 001 : HDMI1 002 : HDMI2 003 : AV 004 : YPbPr 005 : S-Video	
Monitor ID	5	=	3D	001 ~ 026	
~~Number~~	~~5~~	~~@~~	~~40~~	~~000 ~ 009~~	~~—~~
Key Pad	5	A	41	000 : POWER 001 : SOURCE 002 : MENU/EXIT 003 : UP 004 : DOWN 005 : LEFT 006 : RIGHT 007 : MUTE	
Remote Control	5	B	42	000: Disable 001: Enable 002: Pass through	**Disable**: RCU has no effect on HDTV. **Enabled**: RCU controls the HDTV. This is the power up default on the HDTV. **Pass through:** RCU has no effect on HDTV and all RCU command codes are transmitted to FC via the RS232 port. See page 26 for more details
Key Pad	5	C	43	000: Disable 001: Enable	**Disable**: Key Pad have no effect on HDTV. **Enabled**: Key Pad control the HDTV. This is the power up default on the HDTV.
Factory reset	5	~	7E	0	Rests HDTV to factory setting

6.2 Get-Function Listing

The PC can interrogate the LCD Monitor for specific information. The Get-Function packet format consists of 5 bytes which is similar to the Set-Function packet structure. Note that the "Value" byte is always = 00.

Get-Function description:
  Length: Total bytes of message = 5 ASCII (35H), excluding "CR"
  Command: Get-Function command code: One byte ASCII code
  Value[1~3]:   Always = 000

Get-Function format from PC to LCD (ASCII)

Name	Length	Command	Value1	Value2	Value3	CR
Byte Count	5	1 Byte	0	0	0	00D
Bytes order	1	2	3	4	5	6

Monitor shall response to Get-Function with the following packet format:

LCD Monitor response packet format:

Name	Length	Value1	Value2	Value3	Value4	CR
Byte Count	5	1 Byte	1 Byte	1 Byte	1 Byte	00D
Bytes order	1	2	3	4	5	6

Response packet (to Get-Function):
  Length: Total bytes of packet = 5 ASCII excluding "CR"
                  Exception: Total bytes for On-Hours = 6
  Value[1-4]:   Four ASCII codes: Value range is from 0000 ~ 9999
                  Exception: Value[1-5] for On-Hours

LCD Monitor will send "+" (02Bh), "CR" bytes to PC after receiving a valid command
LCD Monitor will send "-" (02Dh), "CR" bytes to PC if the command is not valid

- **The following is an example of PC requesting the volume value from the LCD Monitor:**

PC send Get-Volume-value packet to Monitor (In ASCII)

Name	Length	Command	Value1	Value2	Value3	CR
Byte Count	5	f	0	0	0	00D
Bytes order	1	2	3	4	5	6

LCD Monitor will send "-" (02Dh), "CR" to PC if command is not recognized.
Otherwise the LCD Monitor will respond with the volume value as outlined below:

LCD-Monitor response packet to Get-volume-value (in this example the volume value is 50):

Name	Length	Value1	Value2	Value3	Value4	CR
Byte Count	5	0	0	5	0	00D
Bytes order	1	2	3	4	5	6

A special command "Get-ACK" is used to test the communication link between PC and the LCD Monitor. The LCD Monitor shall response to "Get-ACK" command with a "+" or "-".

Get-ACK from PC to LCD (ASCII)

Name	Length	Command	Value1	Value2	Value3	CR
Byte Count	5	z	0	0	0	00D
Bytes order	1	2	3	4	5	6

LCD Monitor will send "+" (02Bh); "CR" bytes to PC after receiving the command indicating that the communication link is OK

Get Function	Length	Command Code (ASCII)	Command Code (Hex)	Response Range (Three ASCII bytes)	Comments
Get-Contrast		a	61	000 ~ 100	Gets Contrast value
Get-Brightness		b	62	000 ~ 100	Gets Brightness value
Get-Sharpness		c	63	000 ~ 100	Gets Sharpness value
Get-Color		d	64	000 ~ 100	Gets Color value
Get-Tint		e	65	000 ~ 100	Gets Tint value
Get-Volume		f	66	000 ~ 100	Gets Volume value
Get-Mute		g	67	000: OFF (unmuted) 001: ON (muted)	Gets Mute ON/OFF status
Get-RCU		h	68	000: Disable 001: Enable 002: Pass through	Gets RCU mode status
Get-Key Pad		i	69	000: Disable 001: Enable	Gets Buttons ON/OFF status
Get-Input select		j	6A	000: VGA 001: HDMI1 002: HDMI2 003: AV 004: YPbPr 005: S-Video	Gets Input select status
Get-Power status		l	6C	000: STBY 001: ON	Gets the status of the HDTV power. HDTV response: 000 = HDTV is in standby 001 = HDTV is ON
Get-ACK		z	7A	0	This command is used to test the communication link.

6.3 Remote Control Pass-through mode

When PC sets the LCD monitor to Remote Control Pass through mode, the LCD shall send a three bytes packet (followed by "CR") in response to RCU button activation. Note, that in this mode the RCU shall have no effect on the monitor function. For example: "+Volume" will not change the volume in the LCD but only sends "+Volume" code to PC over the RS232 port.

Remote Control pass-through packet format from LCD monitor to PC(ASCII)

Name	Length	RCU-Code1	RCU-Code2	CR
Byte Count	3	MSB	LSB	00D
Bytes order	1	2	3	4

Example: Remote Control pass-through when "Menu" key is pressed (1A)

Name	Length	RCU-Code1	RCU-Code2	CR
Byte Count	3	1	A	00D
Bytes order	1	2	3	4

Example: Remote Control pass-through when key "1" is pressed (01)

Name	Length	RCU-Code1	RCU-Code2	CR
Byte Count	3	0	1	00D
Bytes order	1	2	3	4

Example: Remote Control pass-through when "OK" key is pressed (1F)

Name	Length	RCU-Code1	RCU-Code2	CR
Byte Count	3	1	F	00D
Bytes order	1	2	3	4

Key	Code (HEX)
Size	0F
Volume Up (+)	10
Volume Down (-)	11
Mute	12
POWER	15
INPUT	16
PIP ON/OFF	17
MENU	1A
Up	1B
Down	1C
Left(-)	1D
Right(+)	1E
SET	1F
PIP INPUT	00
PIP CHANGE	00
PICTURE MODE	00
AUDIO INPUT	00
SCREEN SAVER GAMMA	00
SCREEN SAVER BRIGHTNESS	00
DISPLAY	00
AUTO SETUP	00
EXIT	00